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American Association
FOR
Study and Prevention
OF
Infant Mortality

TRANSACTIONS
OF THE
Fifth Annual Meeting

Boston, Mass.

November 12-14, 1914

Headquarters of the Association
Medical and Chirurgical Faculty Building
1211 Cathedral Street, Baltimore

PRESS OF
FRANKLIN PRINTING COMPANY
BALTIMORE
1915

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

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The Sixth Annual Meeting of the American Association for Study and Prevention of Infant Mortality, will be held in Philadelphia, November 10-12, 1915.

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FIFTH ANNUAL MEETING
of the
AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF
INFANT MORTALITY

The fifth annual meeting of the American Association for Study and Prevention of Infant Mortality took place in Boston, November 12 to 14, 1914, under the presidency of Dr. J. Whitridge Williams of Baltimore. The opening sessions were held at the Harvard Medical School and the rest at the Copley Plaza Hotel. The program included a mass-meeting held at Faneuil Hall, under the auspices of the Pilgrim Publicity Association.

SESSIONS

The meetings were held as follows:

Thursday afternoon, November 12:

Nursing and Social Work. Miss Mary Beard, Director Visiting Nurse Association, Boston, Chairman. (Joint session with Massachusetts State Conference of Charities)
Pediatrics and Vital and Social Statistics.—Joint session—Dr. Henry L. K. Shaw, Albany, Chairman

Thursday night, November 12:

General Session. Dr. Hugh Cabot, Boston, presiding. Address by the President, Dr. J. Whitridge Williams, followed by an informal reception

Friday morning, November 13:

General Session. Annual business meeting of the Association. Reports of affiliated societies

Friday afternoon, November 13:

Obstetrics. Dr. Mary Sherwood, Baltimore, Chairman

Friday night, November 13:

Mass-meeting, Faneuil Hall. Judge Murray, Boston, presiding.

Saturday morning, November 14:

Business meeting of the Association
Continuation Schools of Home-Making. Dr. Helen C. Putnam, Providence, Chairman.

The Board of Directors held two meetings, the first on Thursday morning, November 12, and the second, Friday afternoon, November 13. The former was preceded by a meeting of the Executive Committee. Reports were presented at these meetings by the Secretary, the Executive Secretary, the Treasurer and by Dr. H. J. Gerstenberger, Chairman of the Committee on Educational Leaflet and Booklet.

The following committees were appointed by the President:

Nominations—

Dr. Philip Van Ingen, New York, *Chairman*
Dr. J. H. Mason Knox, Jr., Baltimore
Mrs. Wm. Lowell Putnam, Boston
Dr. Henry F. Helmholtz, Chicago
Miss Julia C. Lathrop, Washington

Resolutions—

Dr. J. H. Mason Knox, Jr., Baltimore, *Chairman*
Dr. H. L. K. Shaw, Albany

Transactions—

Dr. John S. Fulton, Baltimore, *Chairman*
Dr. J. H. Mason Knox, Jr.
Miss Gertrude B. Knipp

The continuation of the following committees was authorized by the Board of Directors:

Prenatal Work
Baby Health Contests
Traveling Exhibit
Educational Leaflet and Booklet

CHANGES IN THE CONSTITUTION

Changes proposed to the By-Laws, and submitted in advance to the Directors, were acted upon. The amendments adopted to the By-Laws have been incorporated in the revised copy of the Constitution to be found on pages 360-362 of this report.

BUSINESS SESSIONS

Business meetings of the Association were held Friday morning, November 13, and Saturday morning, November 14. At the former, the report of the special committee appointed at the Washington meeting to consider the subject of the pasteurization of milk, was presented by the chairman, Dr. S. McC. Hamill (*see page 276*).

AFFILIATED SOCIETIES

Brief verbal reports by representatives of the affiliated societies constituted a special feature of the session on Friday morning. The Executive Secretary reported that 120 societies engaged in baby-saving activities, were identified with the Association; fifty-four had appointed delegates and were represented by verbal reports and others had sent written reports which would be published in the Transactions. *See page 283.*

ELECTION OF DIRECTORS

In accordance with the recommendation of the Committee on Nominations, it was voted to increase the Directorate from eighty to eighty-five.

The following Directors whose terms had expired, were re-elected for a term of five years:

Dr. W. W. Butterworth, New Orleans	Dr. C. E. Ford, Cleveland
Dr. Charles V. Chapin, Providence	Dr. Caroline Hedger, Chicago
Dr. F. S. Churchill, Chicago	Mr. Harold McCormick, Chicago
Miss M. F. Etchberger, Baltimore	Dr. F. W. Schlutz, Minneapolis
Dr. Wm. H. Welch, Baltimore	Dr. George M. Tuttle, St. Louis

The following were elected for the terms indicated:

FIVE YEARS

Dr. S. Josephine Baker, New York	Dr. Wm. Palmer Lucas, San Francisco
Mr. George R. Bedinger, Boston	
Dr. A. B. Emmons, 2nd, Boston	Dr. Helen MacMurchy, Toronto
Dr. C. L. Furbush, Philadelphia	Dr. Borden Veeder, St. Louis

FOUR YEARS

Dr. H. C. Carpenter, Philadelphia

THREE YEARS

Dr. E. C. Levy, Richmond Dr. W. S. Rankin, Raleigh

TWO YEARS

Dr. Carl L. Alsberg, Washington

ONE YEAR

Mrs. C. B. Crane, Kalamazoo

OFFICERS FOR 1915

At their meeting Friday afternoon, November 13, the Directors elected

Dr. S. McCl. Hamill, Philadelphia, President for 1915-1916

At the same time the Board declared

Mr. Homer Folks, New York City, the President-elect, President for 1914-1915

The Board then elected the following other officers for the year beginning November 16, 1914:

First Vice-President, Dr. W. C. Woodward, Washington

Second Vice-President, Dr. Wm. Palmer Lucas, San Francisco

Secretary, Dr. Philip Van Ingen, New York City

Treasurer, Mr. Austin McLanahan, of Alex. Brown & Sons, Baltimore

Executive Secretary, Miss Gertrude B. Knipp, Baltimore

EXECUTIVE COMMITTEE

Mr. Homer Folks
Dr. Philip Van Ingen
Dr. H. C. Carpenter
Dr. C. L. Furbush
Dr. S. McC. Hamill

Dr. J. H. Mason Knox, Jr.
Miss Julia C. Lathrop
Dr. Langley Porter
Mrs. Wm. Lowell Putnam
Dr. J. Whitridge Williams

The following resolutions were reported favorably by the Committee and were unanimously adopted by the Association:

Whereas, The Fifth Annual Meeting of the American Association for Study and Prevention of Infant Mortality—held at Boston, November 12-14, 1914—has been the most largely attended and serviceable in the history of the Association, and

Whereas, The great success of the meeting held at a time of general uncertainty and depression because of the war in Europe, was due in large measure to the unselfish and hearty cooperation of the Committee on Local Arrangements, Dr. Hugh Cabot, Chairman, and to its various Sub-Committees, to wit:

Finance, Mr. Harris Livermore, Chairman
Membership, Dr. Wm. J. Gallivan, Chairman
Clinics, Dr. Henry I. Bowditch, Chairman
Exhibit, Dr. Fritz B. Talbot, Chairman
Publicity, Mr. George R. Bedinger, Chairman
Entertainment, Mrs. J. Dellinger Barney, Chairman
Meetings and Meeting Places, Dr. J. L. Huntington, Chairman

Therefore, be it resolved, that the sincere thanks of the Association are due and hereby extended to each Committee and member thereof for their good offices and for the hospitable welcome of the Boston public, and

Be it further resolved, that the appreciation of the Association be especially expressed

To the members of the Reception and Registration Committees for hospitalities extended to the Association

To Mr. N. H. Emmons, 2nd, to whose skillful and effective supervision of the installation of the exhibits, much of the success of the public exhibit can be attributed

To Mrs. E. H. Bradford and the ladies associated with her in the reception tendered the Association at the Harvard Medical School

To the Harvard Medical School for the use of its Assembly rooms for the opening sessions

To the various hospitals, dispensaries, societies and milk laboratories throughout the city for special clinics and demonstrations arranged for the members of the Association

To the Massachusetts Conference of Charities for its cooperation in planning a joint session on Nursing and Social Work

To the Boston Public Library for granting the use of its corridors and court yard for the public exhibit, and to the various organizations and individuals, who, by contributing, made the exhibit both interesting and instructive

To the Pilgrim Publicity Association for the mass-meeting arranged under its auspices and to the Trustees of Faneuil Hall for the use of that historic building

To the Local Press and the Press Associations for their extended and favorable notices of the work of the Association and of the meetings

To the management of the Copley Plaza Hotel for courtesies extended

Mr. Homer Folks, the incoming President, was introduced to the Association at the closing session. Announcement was made by the Secretary that the meeting had been the most largely attended in the history of the Association; that representatives had registered from eighteen States, the District of Columbia, Canada and Panama.

In connection with the meeting, an exhibit illustrating the causes and means of preventing infant mortality was held at the Boston Public Library, November 11 to 15. The exhibits included the traveling exhibits of the Association, of the New York State Department of Health, of the Massachusetts Milk Consumers Association, of the New York Committee for Prevention of Blindness, and interesting displays by over fifty local organizations and hospitals.

REPORT OF EXECUTIVE SECRETARY

November 15, 1913—November 15, 1914

With this meeting the Association completes its fifth year. As an organization it has survived the perils of infancy and has gradually won respect as a working and influential member of the ever growing family of organizations interested in public health or social welfare in the United States and Canada. It has established cordial relations with similar associations in other countries; it has taken part in the deliberations of one international congress on the prevention of infant mortality—the congress at Berlin, 1911—and in the conference of English-speaking peoples in London, in 1913.

Therefore, instead of summarizing the work for the past year only, it may not be amiss to look back over the five years and trace some of the steps that have contributed to the growth and influence of the Association.

In the spring of 1909 a wide-awake health officer was asked what the United States was likely to do in regard to its infant mortality problem. His reply was: "There is very little talk about it now, but the subject is in the air. In a few years it is going to be the most carefully considered factor of the whole problem of public health."

"I believe this is the beginning of a very great crusade," Dr. Wm. Welch predicted at a meeting of a small group of directors of the Association a few months later when the Association was in its early infancy, and when the first plans for constructive work were being formulated. That this prophecy has been fulfilled is realized by all who have kept in touch with baby-saving activities. Better still, the crusade has been a progressive one, and has been attended by successive triumphs, as the surrender of one out-post after another has made it possible to pass from measures that were remedial to those that were really preventive.

There are few communities in our own country now—or in any other country, in fact—that do not realize that excessive infant mortality is preventable, that a heavy infantile death rate implies the absence of a social conscience in the community and ignorant, indifferent, or inefficient administration of health affairs on the part of private and public authorities. Though the lead in the world-wide movement for the conservation of infant life was taken by some of the older countries, the eaven was spread quickly to the United States, through public-spirited individuals, welfare organizations, and the activity of governmental bureaus—Federal, State and Municipal, notably, the Bureau of the Census, the United States Public Health Service, and, since its establishment in 1912, the Children's Bureau. Our own Association ranks among the pioneers and through the work of its committees, the influence of its annual meetings, the teachings of its exhibits and its publications has done much toward awakening public interest and in quickening the public conscience.

In the earlier stages of the campaign, the fight for clean milk loomed large in all plans. It was soon realized, however, that without intelligent motherhood, the benefits of clean milk were limited. Without letting up in any way in the fight for pure milk, the emphasis shifted from milk to the mother, concerning itself at first especially with the education of the mother in personal and baby hygiene, but soon advancing to include prenatal care and the instruction of the expectant mother.

Medicine, science and social service, have been allied in the fight for the conservation of the most valuable asset of every community—the health of its children, the foundation of national and community prosperity. Through it all the vital statisticians, the bookkeepers of humanity's weal and woe, have been like a board of strategy pointing out the significance of the results accomplished, indicating weaknesses, suggesting ways by which the campaign can be strengthened. The tremendous strides made in the last few years can be traced directly to the findings of this group. It was the trained statisticians who showed that though great reduction was being effected in the causes of infant deaths that were get-at-able after the babies came—especially in the deaths due to digestive diseases—practically no impression was being made on the appalling mortality of the first few days and weeks of life. This mortality could not be combatted after the baby had begun to wrestle with this world's problems but could be reached only by care of the mother for weeks and months before the birth of the baby. Hence the growing importance attached to all forms of prenatal work.

AIMS OF THE ASSOCIATION

Organized, as its name indicates, for the study and prevention of infant mortality, the American Association has helped to blaze the way into each new field that has been entered.

The Association was formed as a result of what is believed to have been the first organized conference on prevention of infant mortality in the United States—the conference called by the American Academy of Medicine and held at Yale University, November, 1909.

Headquarters were opened in Baltimore, January, 1910, and the activities have been conducted from that center ever since. The work has been carried on

- a. Through studies and investigations of special and standing committees
- b. Through annual meetings of which there have been four—Baltimore, 1910; Chicago, 1911; Cleveland, 1912; Washington, 1913; and the present meeting in Boston, 1914. The transactions of these meetings form practically a year book on the subject.
- c. By a campaign of education
 1. By the publication and distribution of material on the subject
 2. By correspondence from the Baltimore office, which as far as possible has served as a medium for the exchange of information, on the part of organizations engaged in baby-saving work or planning to do so
 3. By use of a traveling exhibit

WORK OF COMMITTEES

As to the work of committees: A summary of their activities is all that is possible here.

VITAL AND SOCIAL STATISTICS

Vital and Social Statistics (Dr. W. C. Woodward, Health Officer, Washington, Chairman, 1914), was first known as Committee on Birth Registration and under its former chairmen—Dr. Wilbur, Bureau of the Census, and Dr. Batt, Registrar of Vital Statistics, Harrisburg, Pa.—directed the campaign conducted by the Association toward securing prompt, accurate and complete registration of all births. Believing that the scope should be more inclusive, the title was changed to the name under which it now works. The committee, this year, has continued its activity regarding birth registration—by directing an inquiry made from the central office into the means taken to popularize the subject of birth registration by secretaries of State Boards of Health. The committee in conjunction with the Committee on Pediatrics has also mapped out a tentative plan for an investigation of institutional mortality among infants, and has made a preliminary study during the year of so-called "Foundling" institutions in New York City. *See page 169.*

NURSING AND SOCIAL WORK

The Committee on Nursing and Social Work (Miss Beard, Boston, Chairman, 1914; former Chairmen, Miss Nutting, New York, 1911 and 1912; Miss Leete, Cleveland, 1913;) has had the benefit of the advice of the leaders in nursing education—and of pioneers in organized baby-saving activities. The first circular issued in the name of the committee was a small pamphlet outlining plans for baby-saving work, such as milk stations, infant feeding conferences, classes for mothers. This pamphlet has gone through several editions. It has been widely distributed among nurses' organizations, social service workers, departments of sociology, colleges for women, women's clubs, libraries, etc. The committee made an informal report on standards of training for infant welfare nurses, in connection with the program presented at the Washington meeting. As a result of the findings of the committee, resolutions were adopted urging training schools to include special training in infant welfare work, to supply the need everywhere arising for nurses adequately trained in this branch. These resolutions were forwarded from the office during the year to the three large national organizations—American Nurses' Association, Public Health Nursing, and League of Nursing Education—and these organizations in turn endorsed the need of such special training and pledged themselves to secure it.

The resolutions were brought also to the attention of the state organizations of graduate nurses', and through them to the individual members of the state organizations.

In response to the constantly increasing demand for nurses of high standing and of adequate special training in baby-saving and social work, for the activities being started in all parts of the country a number of the older and more experienced organizations are offering opportunities for such special training to graduates of accredited schools,

who wish to fit themselves for positions of responsibility, as supervising or staff nurses in baby-saving work. The Babies' Dispensary and Hospital of Cleveland, the Detroit Babies' Milk Fund Association and the Chicago Infant Welfare Society offer such courses; and arrangements are under way for similar training for nurses in Maryland, by the Babies' Milk Fund Association of Baltimore. Special courses in infant care are also offered by the Babies' Hospital of New York City, the Harriet Lane Home for Invalid Children in connection with the Johns Hopkins Training School for Nurses, Baltimore, and by other organizations and institutions in different parts of the country.

As the number of nurses who are qualified to engage in such work increases, it is hoped that a registry can be established to which some of the smaller communities especially, that are ready for such work, can have access so that they need not be prevented from undertaking activities of this sort by the lack of adequately trained workers.

The committee this year has begun an inquiry into the care that is available for the babies who have graduated from the feeding conferences—children up to school age—and until they pass into the care of the school nurse. *See page 115.*

OBSTETRICS

The Committee on Obstetrics (Dr. Mary Sherwood, Baltimore, Chairman, 1911-1914), was first known as the Committee on Midwifery. The activities of the committee have included investigations of midwifery conditions in different parts of the country; studies and reports on substitute agencies for the midwife; and a study of the teaching of obstetrics in the medical schools. These reports are to be found in the Transactions of the Annual Meetings of 1911, 1912 and 1913. They will be supplemented in this year's Transactions by further reports, and by papers and discussions on "The Need for Increased and Improved Maternity Hospital Service." The committee has also prepared two leaflets, one entitled "Newer Ideals of Obstetrics"—for use in women's clubs, nurses' organizations, etc.; the other entitled "Motherhood"—for distribution to expectant mothers and for use in prenatal work. The latter circular was published October 15th, 1914.

Special efforts have been made by the committee to interest the women of the country in the subject. This has been done through such organizations as the General Federation of Women's Clubs; State Federation of Women's Clubs; nurses' organizations; National Congress of Mothers, and through articles and personal correspondence.

PEDIATRICS

The Committee on Pediatrics, known originally as the Committee on Progress in Preventive Work (Dr. H. L. K. Shaw, Albany, Chairman, 1914; Dr. Helmholtz, Chicago, 1913; Dr. Gerstenberger, Cleveland, 1912), has presented important contributions each year to the program of the annual meeting, and to the annual publications. Valuable studies made by this committee include one on Maternal Nursing by Dr. J. P. Sedgwick, 1912; and one on Heat and Infant Mortality by Dr. J. W. Schereschewsky, 1913. In 1912, in cooperation with a special committee on Housing, of which Dr. C.-E. A. Winslow, New York, was chairman, a preliminary study was made of the relation between environmental conditions, especially over-heated living rooms, and infant diarrhea or infant mortality. These are all published in the Transactions for the

years indicated. Reference has already been made to the study of institutional mortality carried on during the current year by this Committee in conjunction with the Committee on Vital and Social Statistics.

PUBLIC SCHOOL EDUCATION FOR THE PREVENTION OF INFANT MORTALITY

The Committee on Public School Education, etc. (Dr. Helen C. Putnam, Providence, Chairman, 1910-1914), has emphasized the importance of continuation schools as a means of supplying the necessary training for home-making, especially to the large class of young women who have been employed as wage-earners from early girlhood or from childhood and who have had no opportunity for such training during school years. The results of the committee's propaganda are summed up by the chairman in the program for this year's meeting as follows:

"Correspondence with all state commissioners of education, many city superintendents and special instructors, accompanied by reprints of our discussions on the content of actual and possible courses, together with articles in journals of education, has called our object to their attention. So inherently sound is our demand for definite education for parenthood, that success is assured. Ideals are growing steadily toward "free school" education for care of infants.

1. Various departments of home economics in universities and colleges have recently included study of infancy with the manual care, so training teachers for the schools as well as citizens
2. Various university and college extension courses have recently included instruction for care of children (including infants)
3. Various high schools are seeking competent teachers, or experimenting with their seniors, or claiming to be thinking about it
4. Vocational and continuation school propagandists are including more often advocacy of instruction in care of children (mentioning infants)
5. Ideas of possibilities for children under physiologic and psychologic age for parents' work are clarifying, as the report to be presented from the Round Table will indicate."

COMMITTEE ON EDUCATIONAL LEAFLET AND BOOKLET

The Committee on Educational Leaflet and Booklet (Dr. H. J. Gerstenberger, Cleveland, Chairman, 1911—), consisting of a group of representative pediatricians, has prepared a booklet for mothers on the care of the baby, and a leaflet containing more condensed information; both of which have had very wide circulation. The leaflet was issued in April, 1913, and it has since been adopted as the official leaflet by a number of organizations including

Cleveland, Department of Public Welfare, Bureau of Child Hygiene

Baltimore, Maryland Association for Study and Prevention of Infant Mortality (Babies' Milk Fund Association)

Louisville, Babies' Milk Fund Association
Newark, Babies' Hospital Milk Dispensary
New Orleans, Child Welfare Association
Aurora, Juvenile Protective Association

The booklet was published during the present year under the auspices of the United States Public Health Service, as a government document. It was first issued December, 1913, in connection with the weekly reports of the United States Public Health Service, and later, in February, 1914, in the form of reprints by the Government Printing Office. It was also reprinted in full in the State Medical Journals of Texas and Missouri, etc., and in the Public Health Nurse Quarterly. The total number of copies issued by the Government Printing Office was 250,000; of this number 90,000 copies had been distributed to October 30th, 1914.

In accordance with a request made by an officer of the Indian Service, the Public Health Service has been asked to have the booklet translated into Spanish and French for use in teaching the Indian mothers of the Southwest and Northwest borders. It is hoped that it may be translated into other languages, also, for use among the foreign-born mothers who form a large part of the clientele of many of the baby-saving organizations.

THE BALTIMORE OFFICE AS A MEDIUM FOR EXCHANGE OF INFORMATION

There has been correspondence with every state in the United States in connection with the campaign of education carried on from the central office. Part of this has been done through material published by the Association, and the rest has been in response to specific inquiries. Some idea of this phase of the office work may be gathered from the statement of clerical work accompanying this report, and also from the character of some of the organizations with which there has been correspondence—

Public health organizations
Children's hospitals
Infant welfare associations
Camp Fire Girls
Congress of Mothers
Federation of Women's Clubs
Associated charities
Departments of Home Economics—colleges
Federal Council of Churches
Mission study classes
Nurses' training schools
Nurses' organizations
Training schools for nursery maids
Young Men's Christian Association
Young Women's Christian Association
Libraries
State and City Boards of Health

The Association has been in touch also with organizations in Canada, Great Britain, France, New Zealand, and the Philippine Islands.

AFFILIATED ORGANIZATIONS

It has been largely through the help of the affiliated organizations, many of which have contributed generous supplies of their own literature, for distribution, that such correspondence has been made possible and of service. Over 120 organizations are now affiliated—representing a combined strength of many times that number, of trained workers in the great crusade against infant mortality. Many of these have been pioneers in city and state-wide baby-saving work. Their influence and recommendations based upon their own experience, have been a source of inspiration to many of the smaller communities.

To give specific instances—supplies of reports and pamphlets have been furnished for distribution by

Baltimore Babies' Milk Fund Association
 Boston, Committee on Infant Social Service
 Boston, Maverick Dispensary
 Boston Milk and Baby Hygiene Association
 Chicago Infant Welfare Society
 Cleveland Babies' Dispensary and Hospital
 Detroit Babies' Milk Fund
 Louisville Babies' Milk Fund Association
 Minneapolis Infant Welfare Society
 New Haven Infant Welfare Association
 New York City Division of Child Hygiene
 New York Diet Kitchen Association
 New York Milk Committee
 New York State Dept. of Health
 St. Paul Baby Welfare Association
 Toronto Division of Child Hygiene

Federal Children's Bureau—pamphlets on prenatal care; birth registration; baby-saving campaigns

United States Public Health Service—reprints and booklets on the Care of the Baby

Specimen copies of the material used in attracting popular interest to the subject of birth registration—in North Carolina, including circular letters to mothers signed by Governor; letter signed by secretary, etc., were supplied by North Carolina State Board of Health, and were sent out from the office in connection with the inquiry already referred to, addressed to other state departments of health.

Another instance of the help of affiliated organizations in advancing the work of the Association: An investigation of midwifery conditions in Anne Arundel County, Maryland, and a study of the facilities for maternity hospital care in Baltimore, as a substitute for midwives, which were undertaken in 1911 and 1912, under the direction of the Committee on Obstetrics, were both financed by the Maryland Society for the Prevention of Blindness.

GOVERNMENT COOPERATION

Throughout its existence the Association has had much cordial assistance and advice from government bureaus—notably the Bureau of the Census, the United States Public Health Service and the Federal Children's Bureau, and from various State and City Departments of

Health. Some of the most important contributions to the scientific, statistical or social data presented at the annual meetings, or published in the annual proceedings have been based upon material assembled for this purpose by experts in the government service.

TRAVELING EXHIBIT

An important asset of the Association is its traveling exhibit, which was first shown at the International Congress on Hygiene in Washington, September, 1912, where it was awarded one of the few diplomas of special merit. It has been in the field ever since, and during these two years it has been shown in the following places:

Albany, N. Y.	Milwaukee, Wis.	Battle Creek, Mich.
Augusta, Ga.	Baltimore, Md.	Orange, N. J.
Columbus, Ga.	Minneapolis, Minn.	Brooklyn, N. Y.
Jacksonville, Fla.	St. Paul, Minn.	Minersville, Pa.
Providence, R. I.	Duluth, Minn.	Johnstown, Pa.
Oshkosh, Wis.	Lancaster, Pa.	Hamline, Minn.
Wausau, Wis.	Palmerton, Pa.	Franklin, New Jersey
Superior, Wis.	Jacksonville, Ill.	Boston, Mass.
La Crosse, Wis.	Grand Rapids, Mich.	
Madison, Wis.	New Orleans, La.	

The actual showing of the exhibit has represented only a small part of its usefulness. It has served as the basis for a number of condensed exhibits which have been adapted, by permission, for the following activities in Canada and the United States:

Board of Health, Saskatchewan	Salt Lake City Board of Health
Michigan State Board of Health	Board of Health, Prov. of Quebec
Iowa State Board of Health	Medical and Chirurgical Faculty of
North Dakota State Board of Health	Maryland
Department of Household Economics, Cornell University	University of California
Connecticut Women's Suffrage Association	Ohio Board of Health
	Michigan State Board of Health
	Syracuse Chamber of Commerce
	Florida State Board of Health

Several complete sets of photographs of the exhibit are in constant circulation and these also have furnished suggestions for a number of exhibits, to which it was impracticable because of distance, expense, or conflict in dates, to send the actual exhibit. Some of the individuals or organizations to which the photographs of the exhibit have been loaned include: Extension Division, University of Indiana; Mrs. Loui Weinstein, Secretary Child Welfare Committee of the Red Cross, Burlington, Iowa; Department of Child Hygiene, Newark, N. J.; Extension Division, State University of Iowa; Chamber of Commerce, Syracuse, N. Y.; Consumers' League of Syracuse, N. Y.; Mrs. T. Stevens, Local Council of Women, Vancouver, B. C.; Miss Lydia Keller, St. Paul, Minn.; Bureau of Municipal Research, Dayton, Ohio; Department of Public Health, Toronto, Canada; Mrs. Frank Andrews, Houston, Texas; United Charities, Little Rock, Arkansas; Dr. R. Heath Foster, Meridian, Miss.

Lantern slide reproductions of the complete exhibit have been made, and can be secured from the firm by which the exhibit was built. The exhibit was given to the Association in the names of a group of about 100 Baltimore babies whose parents and friends have taken this way of helping babies less fortunately situated.

The exhibit so far has been self-supporting.

MAINTENANCE

The budget of the Association amounts to about \$6,000 annually. The work has been financed partly by membership dues and partly by contributions, but year by year it has grown more self-sustaining. The work of the first year (1910) was made possible by a grant of \$2,000 from the Russell Sage Foundation on condition that an equal amount be raised by the Association. Not only was this accomplished—largely by membership dues—but an exhibit—the forerunner of the present traveling exhibit—was held which opened the way for the present field exhibit. In 1911 a grant of \$1,000 was made by the Foundation as a means of giving permanency to the Association, but with the understanding that no further gift would be made. Since 1912 the plan has been adopted of asking the convention city to guarantee all expenses connected with the meeting; to provide for the publication of the Transactions; to contribute a small sum to the maintenance of the Association.

Owing to the various classes of members and to the possibility of change in the amount received each year, it is impossible to estimate the amount of annual income from that source. For instance, during 1913, five life members were enrolled, their dues totaling \$1,000, and no life members have been enrolled in 1914, though the total revenue from active membership dues has been larger than in 1913. (See Treasurer's Report appended).

MEMBERSHIP

The total enrollment since the Association was organized in 1910 is 1393. The total paid-up membership in 1910 was 420; 1911, 584; 1912, 616; 1913, 716; 1914, 721; resigned, 113; withdrawn, 96; deaths, 17.

Organizations pursuing allied objects are eligible for enrollment as affiliated members. The total number enrolled at present is 128, representing baby-saving activities in 68 cities or towns in 28 states, the District of Columbia, Canada and the Philippine Islands. The scope of the activities represented by these organizations can be seen in this year's program. The geographical distribution of the general membership can be seen also in the list appended.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Membership

	Paid up for fis- cal year ending Nov. 15, 1914	In Advance for 1915
Alabama	1	
California	18	1
Colorado	5	
Connecticut	22	1
District of Columbia	19	3
Florida	1	
Georgia	4	
Idaho	1	
Illinois	49	2
Indiana	4	
Iowa	6	
Kansas	2	
Kentucky	10	1
Louisiana	4	1
Maine	8	
Maryland	90	6
Massachusetts	59	57
Michigan	26	2
Minnesota	23	1
Missouri	16	1
Montana	3	
Nebraska	2	
New Hampshire	4	2
New Jersey	22	
New York	112	7
North Carolina	2	
Ohio	82	4
Oregon	1	
Pennsylvania	64	6
Rhode Island	12	
South Carolina	2	
South Dakota	2	
Tennessee	2	
Texas	2	
Utah	1	
Vermont	2	
Virginia	9	1
Washington	1	
West Virginia	1	
Wisconsin	8	
Canada	11	
England	3	
New Zealand	2	
Argentine Republic	1	
Hawaii	1	
Panama		1
Philippine Islands	1	
Totals	721	97
Life members	15	
Sustaining members	12	1
Contributing members	37	3
Affiliated societies	92	7
Active members	565	86
	721	97

OPPORTUNITIES

There is every indication that the coming year will tax the resources of every organization engaged in social work, to the very utmost. And one does not have to be a prophet to foretell that a great wave of immigration, which will eventually still further complicate the problem—may be expected after the close of the European war. The responsibility for the continuance of work already in existence and for its extension to be ready for the obligations of the future, are the great opportunity and the great challenge of the present. It behooves the Association, therefore, to establish standards and outline plans which can be most effectively applied to the furtherance of the principal business of every community—the making of citizens.

CORRESPONDENCE

November 16, 1913—November 15, 1914

Total number of pieces of mail sent out.....		12,106
Personal letters.....	2,826	
Personal membership letters.....	466	
Circular letters.....	1,770	
Follow-up work.....	2,020	
Bills and receipts (sealed but without letter).....	828	
Packages (mail).....	3,296	
Educational leaflets.....	5,406	
Obstetrical leaflets.....	3,888	
Holt statement.....	288	
Illustrated circulars.....	647	
Facing the facts.....	734	
Circular 1/15/14.....	12,346	
Motherhood.....	3,702	
Booklets.....	3,270	
Preliminary programs.....	11,536	
Final programs.....	3,446	
Executive Secretary's reports.....	98	
Reply envelopes.....	9,616	
If not a member.....	6,108	

Respectfully submitted,
 GERTRUDE D. KNIPP,
Executive Secretary.

REPORT OF THE TREASURER

November 16, 1913, to November 15, 1914

Balance on hand November 16, 1913:—			
General	\$ 409 11		
Exhibit Fund	606 24	\$1,015 35	
Receipts:—			
Membership			
Active	\$1,971 47		
Affiliated	495 00		
Contributing and Sustaining	795 00	\$3,261 47	
Contributions:—			
General	\$ 143 00		
Guaranty	115 00		
Toward Transactions	452 50		
Committee on Obstetrics	26 00		
Toward Letterheads	5 00		
On account of amount pledged toward expenses of Boston meeting	217 02	958 52	
Exhibit (Rentals for use of Traveling Exhibit) ..		378 59	
Transactions (Sale of printed copies) .—			
1910, 1911 and 1912	\$ 94 36		
1913	159 66	254 02	
Received from Journal of the American Medical Association (For report of Washington meeting)...		33 50	
Refund by Southern Sociological Congress of traveling expenses of Executive Secretary		50 00	
Refund on mileage book, expressage, etc		6 00	
Interest on bank balances		38 31	4,980 41
			<u>\$5,995 76</u>
Disbursements:—			
Salaries	\$2,600 00		
Rent of office	200 00		
Printing (General)	655 56		
Transactions of Washington Meeting:—			
Printing 1,500 copies	\$ 926 29		
Cut for paper	7 35		
Distribution—Postage	68 57		
Expressage	22 01		
Wrapping	23 63	1,047 85	
Postage		289 34	
Office Supplies		54 59	
Clerical Help		456 87	
Telephone		31 75	
Exhibit (Repairs and other expenses)		316 36	
Traveling Expenses		108 15	
Multigraphing and Typewriting		39 10	
Expressage and Telegrams		17 01	
Miscellaneous (janitor service, water, ice, carfare, etc.)		99 43	
Advertising in Survey, clipping service and insurance on transactions		72 97	5,989 88
Balance on hand November 15, 1914			<u>\$ 5 88</u>

Respectfully submitted,
AUSTIN McLANAHAN, Treasurer.

American Association for Study and Prevention of Infant Mortality,
Baltimore, Md.:

In compliance with the request of your Executive Committee, we have made an audit of the accounts of the American Association for Study and Prevention of Infant Mortality for the year ending November 15, 1914, and find them correct, as stated above.

Baltimore, Md

Very truly yours,
ALEX. BROWN & SONS.

**THE LIMITATIONS AND POSSIBILITIES OF PRENATAL CARE
BASED UPON THE STUDY OF 705 FOETAL DEATHS
OCCURRING IN 10,000 CONSECUTIVE ADMIS-
SIONS TO THE OBSTETRICAL DE-
PARTMENT OF THE JOHNS
HOPKINS HOSPITAL**

*** ADDRESS BY THE PRESIDENT**

J. WHITRIDGE WILLIAMS, Professor of Obstetrics, Johns Hopkins University, Baltimore

My first duty on this occasion is to express my sincere appreciation of the honor of being elected to the Presidency of this Association, and, as the incumbent of that office, to thank the Boston members and the very efficient Local Committee of Arrangements for their efforts in making it possible to hold our meetings at a time when our sympathies are enlisted in a much broader and more serious cause.

Before taking up the discussion of the subject which I have chosen for my address, I wish to go on record as endorsing the objects of the Association, as well as to bear witness to the wisdom displayed in its original organization. In no other way, I believe, could such widespread interest have been aroused and so much good have been accomplished as by bringing together all classes of persons interested in the welfare of infants. At each of the meetings which I have attended I have been greatly impressed with the character of the audiences, and I feel sure that the Association of trained nurses, social workers, statisticians, and physicians with philanthropically inclined laymen, has been productive of an amount of good, which could have been effected in no other way, and which would have been impossible had the Association been made up of any single class of persons no matter how interested or intelligent they might be.

Naturally my interests in the Association are primarily as an obstetrician and deal with the prevention of infant mortality in the earliest periods of life and even before birth. Investigation along these lines has led me to study the character of the obstetrical care which is available for the great majority of women in this country, and has convinced me that it is inexcusably poor. This, however, is neither the time nor the place to consider such problems; but when I face an audience such as this, I almost wish, were the country not already over supplied with societies, that a somewhat similar

* Presented at the General Session, Thursday night, November 12, 1914.

association might be organized for the study of the problems connected with motherhood and the diseases peculiar to women, and for teaching the women of this country that they have a right to the best available treatment and care, which should be at least as good as that available for their young children, and better than that so freely given to the domestic animals by our National and State governments.

The theme which I have chosen for my address is—"The Limitations and Possibilities of Prenatal Care." Certain phases of the subject have frequently been presented to you, and will be one of the topics for discussion at this meeting. I am, however, inclined to feel that it is often considered from too narrow a point of view, and my chief object in preparing this address is the hope that I may be able to impress upon you that prenatal care covers a very wide field, which while primarily obstetrical, is not limited to any one branch of medicine or of social activity.

The foundation for my remarks is the study of 705 foetal deaths which occurred in 10,000 consecutive admissions to the Obstetrical Department of the Johns Hopkins Hospital—6,500 indoor and 3,500 outdoor cases. In this series, I have included all deaths occurring in children born between the seventh month of pregnancy, the so-called period of viability—and full term, as well as those occurring within the first two weeks after delivery. For convenience in consideration I have classified the children as premature or mature, according as their weight varied between 1500 and 2500 grams, or exceeded the latter figure. Of the 705 deaths, 334 were in the former, and 371 in the latter category.

These figures somewhat under-represent the total mortality, as they do not include many children which perished later from the causes enumerated below, either in my service, in other departments of the hospital, or in their own homes. Furthermore, it must be borne in mind that they do not necessarily represent the results which may be obtained in private practice, but are based upon the material entering a large general hospital, which includes many women who had been improperly treated at home, and were admitted to the hospital in desperate straits.

Moreover, our material differs from that of many institutions in that 4,600 out of the 10,000 mothers were colored, thereby making it possible to compare the incidence of certain causes of death in the two races. In addition, our statistics are of unusual value for two reasons, First, that every one of the 10,000 after-births in the series has been carefully described

and subjected to routine microscopical examination—a procedure which sometimes yields most important information, and secondly, that nearly 90 per cent of the dead babies have been subjected to autopsy. Consequently the causes of death have been ascertained with more than usual accuracy, but even in such favorable circumstances, it is not always possible to make a positive diagnosis.

The accompanying table gives the gross results of our investigations, the causes of death being classified into 12 general groups, while information is also given as to the prematurity or maturity of the children and their race.

TABLE SHOWING CAUSATION OF 705 FETAL DEATHS

Cause	White	Black	Total	Per-centage Incidence	Premature		Mature		Esti-mated Per-centage after pre-natal care
					White	Black	White	Black	
I. Syphilis. . . .	35	151	186	26.4	22	112	13	39	13
II. Unknown. . . .	39	88	127	18	12	37	27	51	15
III. Dystocia. . . .	81	63	124	17.6	4	6	57	57	6
IV. Various. . . .	30	49	79	11.2	7	11	23	38	11.2
V. Prematurity	14	36	50	7.1	14	36	..	..	3.6
VI. Toxaemia. . . .	32	14	46	6.5	17	6	15	8	2
VII. Deformity. . .	18	6	24	3.4	8	3	10	3	3.4
VIII. Inanition. . .	11	12	23	3.3	9	10	2	2	1.6
IX. Placenta praevia. . . .	20	2	22	3.1	10	2	10	..	1.5
X. Premature separation of placenta.	7	6	13	1.8	4	4	3	2	1
XI. Suffocation (criminal).	3	3	6	0.9	..	..	3	3	0.5
XII. Debility. . . .	3	2	5	0.7	..	..	3	2	0.5
	273	482	705	100	107	227	166	205	59.3
	705				334		371		
					705				

The most striking features of the investigation are the following:

(a) That syphilis is far and away the most common etiological factor concerned in the production of death, presenting an incidence of 26.4 per cent.

(b) That toxaemia, including eclampsia, nephritis and occasional rare conditions, which is usually regarded as the condition par excellence which can be influenced by prenatal care, is the cause of only 6.5 per cent of the deaths, and consequently is accountable for only one fourth as many as syphilis.

(c) That notwithstanding most painstaking investigation,

the cause of death could not be satisfactorily explained in 127 cases or 18 per cent.

(d) That the relative death rate is nearly twice as high in the blacks as in the whites—5.1 and 9.4 per cent, respectively, and equals or exceeds that of the whites in all but three categories—namely, toxæmia, deformities and placenta prævia.

After these preliminary remarks, I shall consider each cause of death separately, and afterwards draw certain conclusions as to their bearing upon the problems of prenatal care.

I. Syphilis. Although it has long been known that this disease plays an important part in the causation of foetal death and should always be borne in mind when successive pregnancies end in the birth of dead children, I was greatly surprised to find that it was accountable for 186 of the 705 deaths—26.4 per cent, and that it constituted the most common single etiological factor concerned. It was observed much more frequently in the blacks than in the whites, the incidence being 35 and 14 per cent, respectively, and was the direct cause of two-fifths of the deaths occurring in the premature children.

These startling figures, however, do not tell the whole story of the ravages of the disease, as routine microscopical study of the placenta showed that 350 syphilitic children had been born of the 1,000 women under consideration. One hundred and eighty-six are included in our table, leaving nearly as many more—164—which were still alive at the end of two weeks, and either soon died or presented manifestations of hereditary syphilis later in life. Even these figures probably underestimate the incidence of the disease, as a diagnosis was made only when characteristic microscopical changes were present in the placenta, a positive Wassermann reaction demonstrated in the foetal blood, or specific lesions were found at autopsy. Accordingly, it is probable that a certain number of cases escaped detection, and plausibility is lent to such a contention by the fact that 53 of the children in the next group were born in a macerated condition, and experience teaches that 80 per cent of all macerated children are syphilitic.

However, that may be, the fact remains, which cannot be too strongly impressed upon you, that syphilis is the most common single cause of foetal death, not to speak of its ravages in the children which do not immediately succumb to it, and that in the future no statistics bearing upon prenatal care can make any claim to completeness which do not take it into consideration.

II. Unknown Causes of Death. Strange to say the second largest contingent of foetal deaths is included under this category. One hundred and twenty-seven children, 18 per cent, were born dead or succumbed during the two weeks following birth without our being able to discover a satisfactory explanation for the fatal issue. Indeed the only suggestive finding was the fact that 53, or nearly one-half, of the children were macerated when born. I have already suggested the possibility that undetected syphilis may have been concerned, and I believe it is reasonable to assume that probably 40 of these children, or approximately one-third of the group really perished from it. With this exception, no definite statement can be made, and we are compelled to confess that the means at present at our disposal do not always enable us to adduce a satisfactory explanation for a considerable number of foetal deaths.

III. Dystocia. Under this caption I have grouped together the deaths following mechanically difficult labor, whether operative or spontaneous. In many instances it was the result of disproportion between the size of the child and the pelvis of the mother, while in a smaller proportion it was due to abnormal presentations of the child or to other factors resulting in delayed labor. The group, however, does not include the difficult labors associated with eclampsia or complicated by hemorrhage preceding the birth of the child, which are classified under separate headings.

One hundred and twenty-four foetal deaths are included in this category, an incidence of 17.4 per cent, and occurred more frequently in whites than in blacks—22 and 14.5 per cent, respectively. This is a somewhat surprising conclusion when it is recalled that abnormal pelvises are noticed three or four times more frequently in black than in white women, and that the most extreme degrees of deformity occur almost exclusively in the former. To my mind, the explanation for this apparent contradiction is afforded by two factors. First, that colored children as a rule are smaller and have softer heads than white children, with the result that moderate degrees of pelvic contraction are frequently compensated for, so that easy spontaneous labor may take place in spite of the contracted pelvis. Secondly, that extreme disproportion is readily recognized when the patients are promptly subjected to Cæsarean section, or to other radical forms of delivery, with ideal results for both mother and child. On the other hand, in white women, who as a rule present only moderate degrees of pelvic contraction, the children are comparatively large so that the re-

sulting disproportion is relatively great. Unfortunately, the recognition of this type of dystocia requires great diagnostic skill, and frequently is impossible until the woman has advanced far in labor, with the result that the time has passed for the employment of the ideal methods of delivery and the child succumbs to the makeshift procedures which we are compelled to employ.

Consequently, one of the most important lessons to be learned from this group of cases is that moderate degrees of pelvic contraction are much more serious in white than in black women, and that the most expert skill is required for the recognition of the disproportion and for the choice of the ideal methods of delivery.

I have carefully studied the history of each patient in this group in the attempt to ascertain to what extent the foetal mortality might have been diminished or prevented. In the first place, I found that in 25 cases outside physicians or midwives had failed to effect delivery and had transferred the patient to the service when the child was already dead or so damaged that it succumbed shortly after birth. Most of these deaths should be attributed to ignorance, and could have been prevented had the patients received skilled care at the proper time. On the other hand, I found an equal number of cases in which the death of the child was due to errors of judgment by myself or my assistants. In a certain proportion of these cases the result must be regarded as "the premium paid to experience" and was due to inexperience on the part of my resident, who either delayed too long before interfering, interfered too soon, or failed to select the ideal procedure for delivery. In other cases the fault was my own. In most instances, however, the error of judgment was unavoidable, and was recognized as such only after the treatment of the patient had been coolly reviewed months or years afterwards. Consequently, only a certain proportion of such deaths are really preventable.

On the other hand, in 74 cases of the series most rigorous criticism fails to reveal any cause for reproach, and I believe that the deaths were unavoidable when all the factors concerned are taken into consideration. Thus, it would appear that a considerable foetal mortality is inherent to the class of cases under consideration and cannot be avoided.

IV. Various Causes. Under this heading are included 79 deaths, 11.2 per cent due to thirty different accidental complications which were equally divided between the two races. *An idea as to their great variability may be gained from the*

following table, which includes all conditions which were observed in two or more instances:

VARIOUS CAUSES OF DEATH

Hemorrhagic disease	14	cases
Broncho-pneumonia	13	"
Cord infection	6	"
Strangulation by loops of cord.....	5	"
Umbilical hemorrhage	4	"
Hydramnios	4	"
Enteritis	4	"
Gastritis	2	"
Asphyxia	2	"
Neglect	2	"
Cerebral hemorrhage (spontaneous labor).....	2	"
Status lymphaticus	2	"
Trauma	2	"
Various conditions each of which occurred but once.....	17	"
		<hr/> 79 cases

In other words, 50 of the deaths were due to the 7 causes mentioned first while the remaining 29 were attributable to 23 different causes. In general, very few of these deaths could have been prevented, and it is interesting to note that practically one-third were due to hemorrhagic diseases or to broncho-pneumonia. Furthermore, it should be observed that 12 out of the 14 cases of the former occurred in negro children, while the incidence of the latter was identical in the two races.

I am unable to state whether the remarkable predominance of blacks perishing from hemorrhagic disease has any special significance, as we are almost completely ignorant concerning its cause.

V. Prematurity. Under this heading I have grouped together 50 deaths occurring in premature children, which were born alive but perished during the first week of life, and whose death could not be attributed to syphilis, toxæmia, or any of the causes enumerated in the table. Autopsy usually revealed no definite cause for the fatal issue, which apparently was due to the inability of the poorly developed child to lead an extra-uterine life.

Cases of this character occurred much more frequently among the blacks and are attributable, in part at least, to the lack of care and intelligence which so frequently characterizes that race.

VI. Toxæmia. The various toxæmic conditions were responsible for 46 deaths, 6.5 per cent, which were equally divided between premature and mature children. Strange to say, white children were involved nearly three times more frequently than black; although it is impossible to adduce a satisfactory explanation for the difference.

The prevention of the development of these conditions is one of the chief aims of prenatal care, and it must be said that the great majority of our cases occurred in women whose pregnancies had not been supervised, but who were seriously ill before entering the service.

VII. Deformities. Under this heading are grouped together 24 deaths occurring in children, which presented congenital deformities which were incompatible with life, or which gave rise to such mechanical obstruction as to lead to their death at the time of labor.

The following table gives an idea of their character and incidence:

DEATHS FROM CONGENITAL DEFORMITY

Acrania	6 cases
Hydrocephalus	6 "
Imperforate anus	3 "
Congenital oedema	2 "
Osteogenesis imperfecta	2 "
Hemimelus	1 case
Congenital cystic kidneys	1 "
Achondroplasia	1 "
Spina bifida	1 "
Absence of pylorus, situs transversus	1 "
<hr/>	
24 cases	

Such deformities are attributable to errors in development occurring within the first few weeks following conception, and cannot be prevented. It is interesting to note that three-fourths of them occurred in white children, and were about equally divided between those which were born prematurely or at full term.

VIII. Inanition. In this category I have collected 23 deaths occurring between the 7th and 14th days, for which autopsy failed to reveal a satisfactory explanation. As all but four of the children were premature, this group of deaths might have been considered under prematurity, the only point of difference being that death occurred during the second instead of the first week.

IX. Placenta Praevia. Under this heading are included 22 deaths which were associated with abnormal implantation of the placenta. This condition gives rise to severe hemorrhage, which necessitates the termination of pregnancy, no matter to what period it may have advanced, and is always associated with a high foetal mortality. The children were almost equally divided between premature and mature, but the most interesting feature connected with this group is that only two deaths occurred in colored children. I am unable to advance an

explanation for this peculiarity, as a priori the condition should occur with equal frequency, and should be attended by approximately the same mortality in the two races.

X. Premature Separation of the Placenta. The partial or complete separation of the normally implanted placenta before the onset of labor constitutes one of the most serious complications of pregnancy, and if complete always leads to the death of the child and frequently to that of the mother. It was responsible for 13 deaths in our series, which were approximately equally divided between the two races.

XI. and XII. Suffocation and Debility. The conditions comprising these two groups occur so infrequently as not to require special consideration.

EFFECT OF PRENATAL CARE

Having thus reviewed the various causes of foetal death in our series, I shall briefly consider each group from the point of view of prenatal care, and determine as far as possible to what extent its intelligent application might have been effective in reducing early infantile mortality. I am well aware that any such estimate is dependent upon the personal attitude of the person making it, and at best can be only approximate. Definite statements cannot be made until numerous series of thousands of cases each have been adduced, in which all of the mothers had been the recipients of intelligent prenatal care carried out under ideal conditions. Such statistics are not yet available, and I fear that some time will elapse before they are.

I. Syphilis. I feel that the chief value of this investigation consists in the demonstration that syphilis is the most important single factor concerned in the production of foetal death, certainly when the material includes considerable numbers of negro patients. For this reason it must receive important consideration from those interested in prenatal care and in the reduction of infantile mortality. Unfortunately, it is not an easy task to combat its effects. Mere education in sexual matters will do but little good in the class of patients concerned, as we are dealing with realities and not with utopian theories. What is necessary is to recognize the disease in the mother at the earliest possible moment, and then to subject her to appropriate anti-syphilitic treatment with the belief that the drug administered to her will be transmitted to the child and effect its cure.

The treatment is comparatively simple, but the difficulty lies in making the diagnosis. Unfortunately, for our purpose, not more than one-fourth of syphilitic pregnant women present lesions from which a clinical diagnosis can be made and they usually feel perfectly well, with the result that in three-fourths of the cases the condition is unsuspected until a dead born child is subjected to autopsy, or a living child develops symptoms of hereditary syphilis. Indeed, in a large proportion of our cases the condition would have escaped detection had it not been our custom to examine every placenta microscopically.

How can the desired end be effected? I am afraid that ideal results could not be obtained unless a Wassermann test were made in the early months of pregnancy upon every woman applying for obstetrical aid. Such a procedure is out of the question on account of its expense, and the best that we can do is to bear the possibility of syphilis constantly in mind, and to teach those engaged in practical work to be always on the lookout for it. This would result in the detection of about one-fourth of the cases, while the other three-fourths could escape.

Fortunately for our problem, the effects of unrecognized maternal syphilis are not limited to the birth of a single dead child or by the development of a single case of hereditary syphilis, but the woman continues to give birth to a succession of dead born children. Consequently we should always regard the birth of a dead child with suspicion, and, unless it is perfectly apparent from the history that syphilis was not concerned, the blood should be subjected to the Wassermann test, and in case a positive reaction is obtained the mother should be given appropriate treatment, with the certainty that one-half of the children, which are now lost, would be saved and the woman herself put in condition to have normal children in the future.

This is not the time or the place to enter into a discussion as to the possibility of the paternal transmission of syphilis or of the proper treatment of the disease; but enough has been said to demonstrate that ideal prenatal care demands much more than the examination of the urine and instruction as to the desirability of breast feeding, and must include an extensive knowledge of syphilis. For it is only by its recognition and treatment that this important cause of foetal death can be partially eliminated.

II. Unknown Causes. In view of the fact that our knowledge at present is insufficient to permit us to determine the cause of death in this class of cases, nothing can be said of the

prospect of immediate improvement by means of prenatal care, except in so far as the detection and treatment of obscure cases of syphilis is concerned. Naturally, future investigations will gradually lead to a decrease in the size of this group, and will open up avenues of prevention which do not now exist.

III. Dystocia. In this group of cases the intelligent application of prenatal care in its broadest sense offers great promise of better results. As has already been indicated the disasters in this group are in great part due to pelvic abnormalities, or to excessive size or abnormal presentation of the child. Such conditions cannot be detected or remedied by the most intelligent prenatal nurse and their recognition will be possible only after all women have been educated to go to a competent obstetrician or to a well regulated obstetrical dispensary for a preliminary examination one month before the expected date of confinement.

If abnormalities are found, the woman should enter a hospital for delivery, and the public should be taught to realize that safety is to be found only in ideally organized obstetrical hospitals. Too many sins of omission and commission are now covered by the hospital roof, and in many the sense of security is illusory, as the woman may be treated by short term assistants, who are often less competent than the much maligned general practitioner. These women should not be delivered in their own homes by a doctor or midwife or even by the outdoor service of the hospital, as their safety and that of their babies may depend upon the expert service which can be obtained only in a well regulated hospital. Generally speaking, even in the absence of a recognized abnormality, the history of a dead born child in a previous labor should always be regarded as an indication for hospital treatment.

It is my belief that at least two-thirds of the foetal deaths due to these factors could be prevented if suitable care were available. *On the other hand greater optimism is not permissible, as, no matter how skilled the medical attention may be, a considerable mortality will always be associated with such cases.*

IV. Various Causes. As was indicated in the corresponding previous section, the deaths occurring in this group are due to a large number of accidental factors, concerning whose cause and prevention we are in great part ignorant. Consequently, it is not probable that any great diminution can be effected in this group by the means at present available.

V. Prematurity. Prenatal care and instruction offer great possibilities for the diminution in the number of deaths due to

this cause. In her visits to the homes of ignorant and overworked women the prenatal nurse can prevent many premature labors by giving instruction in personal hygiene, insisting upon rest and abstention from excessive work during the later months of pregnancy, and, where imperfect nutrition is manifest, by putting the woman in touch with appropriate agencies for relief.

It has been established beyond peradventure that one of the most potent causes of premature labor and the birth of poorly developed children consists in overwork and poor nutrition in the last months of pregnancy; and my own observation has demonstrated that the smaller size of the average colored child is dependent upon insufficient and unsuitable food, and that a stay of several weeks in the hospital before labor will result in an increase of 8 to 16 ounces in the size of the child, which will then compare favorably with those of white women in comfortable circumstances.

While the State is not yet prepared to follow the example of France and Germany in ensuring the working woman a period of rest during the weeks immediately preceding labor, I am confident that intelligent prenatal care along the lines indicated would soon lead to the diminution by at least one-half in the deaths due to prematurity.

VI. Toxaemia. The fact that only 46 children in our series perished as the result of toxaemia, indicates that preventive work in our service has resulted in appreciable improvement, as the great majority of deaths occurred in the children of women who had applied for aid only after the disease had become fully established.

For some years the prevention of toxaemic conditions has been recognized as one of the main functions of prenatal care and has accomplished great good. Every practitioner knows how difficult it is to induce even intelligent women to send specimens of urine for examination at regular intervals and that it is practically impossible in the type of women who come to the obstetrical dispensary. Consequently one of the most important functions of the prenatal nurse is to follow up the patients in this regard, and when abnormalities are detected to see that they enter the hospital for prophylactic or curative treatment.

In my own material, I am confident that the mortality from this cause could have been reduced four-fifths had suitable prenatal care been available. *At the same time, I think it right to insist that complete abolition of death from this cause is an unattainable dream, as I know from my own experience*

that patients who have been constantly under ideal supervision, occasionally develop and sometimes die from toxæmia.

VII. Deformities. Under the appropriate heading I indicated that the deformities in question originated during the first weeks of pregnancy and therefore no diminution in the number of deaths from this cause can be expected from prenatal care. Furthermore, I am inclined to believe that more careful investigation will lead to the recognition of an increasing number of such cases, *as is shown by the fact that since completing the tabulations upon which this study is based, I have seen two dead babies born, which would previously have been classified in the "unknown cause group," but in whom very thorough autopsy demonstrated that death had been due to abnormalities of the nervous system, which were incompatible with life and which had originated during the first weeks of development.*

VIII. Inanition. *All that can be said of the prevention of death from this cause has already been done under the heading "Prematurity."*

IX. Placenta Praevia. Only a few of the 22 deaths from this cause could have been prevented by prenatal care and then only indirectly. Had all of the women suffering from this abnormality been taught that bleeding during the last months of pregnancy was a serious matter and demanded expert hospital care, instead of being sent to it in a dying condition by doctors or midwives who had attempted to treat them in their own homes, it is probable that a considerable number of both mothers and children might have been saved.

The greatest hope for improvement in this condition lies in preventive measures, put in operation months or years before the condition develops. In other words, since the causative factor in the production of placenta praevia consists in inflammatory conditions of the lining membrane of the uterus, resulting from infection in previous labors or abortions, the chief means of prevention consists in good obstetrical care in preceding labors.

X. Premature Separation of the Placenta. Thirteen foetal deaths were attributable to this cause, but as we are in great part ignorant of the exact mode of production of the accident, it is evident that even the most intelligent prenatal care could not have been effectual in preventing it.

Furthermore, in view of the fact that the complication runs a rapid course and is frequently very difficult of recognition, it is unlikely that the majority of the women affected could have been sent to the hospital sufficiently early to have been sub-

jected with any great hopes of success to the radical operative procedures which are essential for saving the child; while in many instances it is a matter of congratulation if it is possible even to save the mother.

XI. and XII. Suffocation and Debility. These factors in the causation of infantile death occurred so rarely in our series of cases, and were so clearly beyond the influence of prenatal care, that they do not call for consideration.

Having thus reviewed the causes of foetal death in our series of cases and considered the extent to which they might be decreased by ideal prenatal care, I have indicated in an approximate manner, in the last column of our table, what appears to me to be the proportion of deaths which must be expected, and which cannot be appreciably diminished by any means at our disposal.

It would therefore appear that the foetal mortality in our material might have been reduced 40 per cent had it been possible for all of our patients to have had the advantages of the type of prenatal care which I shall briefly sketch, and with the further proviso that they had received practically ideal obstetrical care in the hospital. In this event, nearly 300 additional children could have been discharged from the service in good condition.

In criticising our results, it should be borne in mind that our material is made up of the type which ordinarily applies for aid at a large general hospital, and is less favorable than in many institutions, for the reason that nearly one-half of the patients are negroes with relatively scant intelligence and afflicted by contracted pelves and syphilis to an extent in no way approached by white patients. In general, I believe I can fairly claim that the treatment at the time of labor compares favorably with that of other institutions, but on the other hand, I must frankly confess that the care during pregnancy was far from ideal, and until two years ago consisted solely in such supervision as could be afforded in the dispensary to patients who voluntarily obeyed our directions to return at stated intervals for supervision and examination. During the past two years, however, thanks to the cooperation of the "Milk Fund" nurses and of the Children's Clinic, conditions have materially improved, and at the present moment the hospital has provided funds to enable us to make a start with real prenatal care.

If in these circumstances we have to register a total mortality of 7 per cent, with all the resources of a large hospital and university behind our service, which has also been fortunate in being provided with an exceptionally competent nursing and

resident staff, it is appalling to contemplate the conditions which must obtain in private practice among the poor and in some institutions which are less favorably situated.

I shall now outline briefly my ideas concerning efficient prenatal care in large cities, and shall consider its relations to other departments of medical and social service work.

I am inclined to believe that too narrow a view is ordinarily taken of its scope, which is regarded on the one hand almost solely as a means of preventing toxæmia, and on the other as a side issue in the propaganda for breast feeding. If ideal results are to be obtained, neither view is correct, and if the consideration of the facts which I have presented has served its purpose it will have convinced you that broad minded prenatal care has an immense scope, and can only be carried out effectively under the auspices of a well regulated obstetrical department, which can command the enthusiastic cooperation of carefully trained obstetricians, social service workers, and prenatal and outdoor obstetrical nurses, and at the same time is in close affiliation with a children's clinic with its corps of organized workers, or at least with a well conducted milk association. Furthermore, the closest relations must be maintained with the other departments of a general hospital whose resources should be readily available to the mother and children when necessary.

ORGANIZATION OF PRENATAL WORK

In such an obstetrical department as I have indicated, the prenatal work should be conducted primarily from the dispensary, which should serve as the portal of entry for all prospective patients irrespective of whether they expect to be treated in the hospital or in their own homes.

The first requisite for such a dispensary is that it should have proper quarters, an ideal personnel and adequate financial support. The purely medical work should be under the direct supervision of the director of the hospital, and should be carried out by medical men, who are sufficiently well trained to make a reliable diagnosis. A considerable proportion of them, at least, should be assistants living in the hospital, in order that the work of the in- and out-door departments may be satisfactorily coordinated. In addition to the medical assistants, the necessary number of nurses should be in attendance to care for the ordinary needs of the patients, but more important is a requisite number of prenatal nurses. These should be graduate nurses with considerable obstetrical experience,

who have also had a certain amount of training in social service work and should receive adequate salaries.

Except in cases of emergency, patients should be encouraged to come to the dispensary as early as possible in pregnancy. After registration, a careful physical examination should be made and its results recorded. This should not be limited to purely obstetrical conditions, but should include the entire body, with especial reference to syphilis and tuberculosis, and the condition of the kidneys. At this visit blood should be withdrawn for a Wassermann test should anything in the physical examination or the previous history of the patient indicate its necessity.

If everything is apparently normal, and the patient desires it, she should be tentatively registered as an outdoor patient to be eventually delivered in her own home; otherwise she should be registered as a prospective hospital patient.

In either event she should be instructed to report to the dispensary at stated intervals as long as she remains well, and to bring a specimen of urine at each visit. She should also be given a card containing concise directions concerning the hygiene of pregnancy, and mentioning important untoward symptoms which might supervene. Should such be noted she should report at once.

At the first visit to the dispensary, the prenatal nurse should meet the patient, and arrange to call upon her at her own home within the week. At this visit she should make a social survey of the surroundings, and determine whether the patient is a proper object for charitable care. If the surroundings are not suitable, the patient should be persuaded to enter the hospital for delivery. The nurse should also amplify the printed directions concerning the hygiene of pregnancy and impress the woman with the necessity of suckling her baby.

After this initial visit, an important part of the duties of the nurse is to keep track of the patient by means of a card index, and in case she does not return to the dispensary within one week of the specified time, to visit her again in order to ascertain why she failed to keep the engagement.

Every patient should return to the dispensary for a final examination one month before the expected date of confinement, and the decision as to whether she is to be delivered in the hospital or in her own home will in great part depend upon the findings at this time. In the latter event she should be visited again by the prenatal nurse in order to ascertain whether the necessary arrangements have been made for the approaching confinement. Ordinarily further visits will

not be necessary until after the child is born, but a visit should be made just after the student and post partum nurse cease their visits. This is necessary partly to check up the work of the outdoor service, but principally to put the patient and her baby in touch with the children's clinic. At this time the nurse should give the patient a card to the clinic with instructions to take the baby to it should necessity arise, and on returning to the hospital she should register it at the children's hospital or with the "Milk Fund nurse" so that it can be followed up by the proper agencies.

In the case of patients entering the hospital for delivery the prenatal nurse's work usually ceases with the visit made one month before delivery, as the subsequent supervision will devolve upon the nursing staff of the hospital. On the day before the discharge the mother and baby should be taken to the children's clinic for registration, so that the baby may be placed under its supervision for the next year.

Prenatal care does not necessarily end here, as it has to take thought of what may happen in future pregnancies, as well as of the preservation of the general health of the mother. Consequently when the existence of syphilis is not discovered until after the birth of the child, a mechanism should be developed which will ensure proper treatment, either under the auspices of the obstetrical service or in some other special department of the hospital. To bring this about without unnecessarily going into details concerning the disease will often require great tact, and will tax the resources of many nurses. Furthermore, when the patients are discharged with conditions ultimately requiring operative treatment, but which could not be undertaken during their stay in the lying-in ward, an attempt should be made to see that they ultimately return to the obstetrical department or to some other department of the hospital for the necessary operation, both for their own sake and for that of their unborn children.

I hope that by this brief outline and by my figures, I have been able to make clear how complicated prenatal care is, and how inextricably it is connected with the work of the obstetrical hospital. It is not merely a matter of a few visits by a nurse to the patient in her own home, but should consist in the coordination of the medical, nursing and social service resources of the hospital in the effort to obtain such treatment and supervision for the mother as will offer the greatest possible guarantee for the safe delivery of a normal child, which can be kept healthy by maternal nursing.

SESSION ON NURSING AND SOCIAL WORK

Thursday, November 12, 1914, 2.00 P. M.

JOINT SESSION WITH MASSACHUSETTS STATE CONFERENCE OF CHARITIES

COMMITTEE

CHAIRMAN

MISS MARY BEARD, Director, Instructive District Nursing Association, Boston

SECRETARY

MISS ALICE M. CHENEY, Social Service Department, Peter Bent Brigham Hospital, Boston

MISS YSSABELLA WATERS, Henry Street Settlement, New York
MISS ELSIE BURKS, Children's Memorial Hospital, Chicago
MISS ALICE HALL, District Nursing Association, Providence

STATEMENT BY THE CHAIRMAN:

The period of highest infant mortality is shown to be within the first month of life. Add to this large mortality the number of stillbirths and we have a measure full and overflowing of the unsuccessful efforts of unaided motherhood. Not only is this a loss of potential energy in the baby, but also the cause of maternal waste, suffering and disappointment. Prenatal care is proved to be an efficient means for the conservation of at least half of this present infant loss, and is probably an even greater saving to the mother. Prenatal care is also the starting point of the practical education of the mother for the intelligent care of the infant and the child. For these reasons prenatal care is rightly receiving the earnest thought, and should receive the bountiful support of the men and women of the world.

In 1911 our president, Dr. Williams, gave us the results of a careful study of the shortcomings, the duty, the difficulties and the responsibilities of the medical schools in the teaching and training of competent obstetricians to care for all women in the perils of childbirth. This fundamental study is bearing fruit. It seems now, to be fitting and to offer the most profitable field for infant conservation to make a study of the various means and methods available to give all prospective mothers the comforts, the benefits and the safeguards of the best medical knowledge available during this vital period of development. The direct application of this knowledge must be largely through the trained nurse. This section has, therefore, made prenatal care its subject for this meeting, with confidence of abundant results to the conservation of infant life and maternal strength.

THE RESOURCES FOR GIVING PRENATAL CARE

ARTHUR B. EMMONS, 2nd, M. D., Boston

We are gathered here this afternoon to consult together how best to protect and safeguard the most valuable, the most helpless, and yet the most appealing creature in the world—the human infant. To protect the baby we must protect its greatest friend, its mother. The baby's greatest resource is the mother instinct which is instantly aroused by the baby's appealing cry, his mightiest weapon. Probably every one here knows more or less intimately what nursing and care of a baby means, but some have come to learn, at least more definitely, just what is meant by prenatal care, how it may be given, and what it may accomplish.

Mrs. Max West, of the Federal Children's Bureau, will review the history and spread of prenatal care. I propose in this paper to define prenatal care and to describe exactly how it is given to a patient in one of our clinics, showing what it means to the patient, the doctor, the nurse, and the social worker. Then I shall review the means available for giving this care in a town, a small city, and in a large city, Greater Boston. I must leave to others the difficult problem of rural care. I will next sketch what is needed to make this care reasonably available for those of limited means in Boston adding suggestions for an ideal scheme. Finally I wish to make clear what the problem is which the community faces today in order to make available to the prospective mother of the crowded city districts reasonable prenatal and obstetric care.

DEFINITION

What is prenatal care? It is not the popular conception, as I am told by one prominent physician, preventing feeble-mindedness, in the child, but it is conserving the health and strength of the prospective mother; it means foresight and forehandedness during pregnancy. A common practice among the unenlightened or improvident, who blindly hope all is well, is to call at the last minute a doctor or midwife to meet unprepared any emergency. Prenatal care substitutes for this haphazard way the following procedure:

PROCEDURE IN A PRENATAL CLINIC

The doctor sees the prospective mother as soon as she suspects that pregnancy has occurred. He learns the history of past illnesses and confinements and her present symptoms. He makes a careful physical examination of the teeth, lungs, heart, blood vessels and blood pressure, of the abdomen with estimate of the period of pregnancy, the size and position of the child, if near term, the rate and location of its heart, and careful measurement of the mother's bones to make sure no obstruction to birth is present. Swelling of the feet and legs is noted, and a urinary test of the kidney functions is made. The facts thus gathered form a basis on which to predict the outcome.

Such prediction is the highest point of obstetric science, and to be reliable, must be made by a *physician* familiar with the experience of the past. Our medical fathers classified millions of cases and studied thousands of abnormalities. (See Breus and Kolisco) The physician must be prepared to use this knowledge. The judgment of such a man must be balanced by the experience of successfully meeting the many problems and emergencies of obstetrics. How does this help the mother? Here is one example: Prof. Kerr of Glasgow, a few years ago, in the Maternity Hospital of that city, by using more exact methods, such as careful study of the pelvis and the size of the child's head, was able to reduce the number of forceps operations, where the pelvis was mildly contracted, from 91 to 47 per cent, thereby reducing the infant mortality in such cases from 18 to 2 per cent, and the infant morbidity from 30 to 4 per cent. Similar results have been obtained in this country by Williams at the Johns Hopkins Hospital.

With the outcome thus intelligently predicted the mother is confidently instructed and the *nurse* is put in charge of the case, with the doctor as consultant to guard against any abnormal condition which may yet develop during pregnancy. The nurse visits the home at intervals of not over ten days. At the first few visits home conditions are seen and instructions given for personal hygiene in diet, baths, clothing, fresh air, sleep, and exercise; i. e. how best to conserve her strength for the good health of the baby and for the physical strain of labor and nursing. Later, necessary preparations for the coming of the baby are assured with every precaution against infection to the mother and baby. At all visits the mental and physical condition of the mother is critically observed, a urinary test is made, and the co-operation of the whole family is solicited.

While in many cases this preliminary study and care may seem a needless precaution, the saving of possibly four or five lives in every hundred cases, the avoidance of danger in ten to twenty more, and the relief of suffering and discomfort in perhaps forty or fifty would seem to justify the effort. The more intelligent the woman the more reassured and grateful she is. The dangerous advice of the gossiping neighbor is apt to be less heeded. Experience shows that the tactful nurse is welcome in the home, and her opportunity for good is great. It would be difficult to exaggerate the value of these visits made by an efficient, sympathetic nurse to certain prospective mothers. Seldom will a nurse's personality tell more than in some of these friendly visits. Her social service training will often be invaluable in meeting the situation.

To the *social worker* the field is new and limitless. The problems of maternity and its relations with society are enormous. Scarcely a pregnant patient comes to our clinics today who is not worried by some social difficulty added to her physical burden. Such problems as illegitimacy, drunkenness, and desertion are frequent, while improvidence, unemployment, and a too small budget are the usual state.

The settlement house as the center of a district may often do very effective prenatal work. It is not difficult to obtain the services of a young, capable, well-trained obstetrician for the medical work. Their intimate knowledge of the homes, together with the confidence placed in them by the parents, enables these social workers to wisely advise prospective parents in these matters. Miss Strong of the South End House in Boston has paid particular attention to this prenatal work with the father. She says, "We try to make him feel that the baby is to be a veritable social investment in which he *must* be willing to put thought, time, and money. If his sense of protective watchfulness can be stirred to conserve the strength of the mother for the good of the child, then he has dignified himself anew."

To sum up, prenatal care, then, is *preventive medicine as applied to obstetrics*, i. e. the utilization of every known means to keep the prospective mother well and strong, to foresee and forestall dangers, to intelligently provide for confinement. This may be merely proper care in the home at a minimum expense for the normal case, or the best skill available in a hospital for averting tragedy. Preventive obstetrics, thus, includes a wide knowledge of the anatomy, physiology, psychology and sociology of the patient.

To obtain the greatest efficiency in prenatal care there must be co-operation of the various scientific laboratories in the medical school to further our knowledge. The medical societies and journals should disseminate this new authoritative knowledge, for example: an important and live subject is the thorough investigation of "twilight sleep"; its safety or danger; if valuable, the best, simplest, and safest method of obtaining it.

The hospitals must also co-operate by providing a welcome and ample care for the doubtful and dangerous cases. The State and Municipal Health Boards, Milk Stations, and social forces, both public and private, should co-operate to make its application to the community possible, as well as the efforts of patient and family, to the end that motherhood may be safe, successful, and happy.

I wish here to describe an experiment designed to put this into actual practice.

EXPERIMENT OF THE COMMITTEE ON INFANT SOCIAL SERVICE

now changed to

THE COMMITTEE ON PRENATAL AND OBSTETRIC CARE OF THE WOMAN'S MUNICIPAL LEAGUE OF BOSTON

From April, 1909, a committee of the Woman's Municipal League of Boston, under the leadership of Mrs. Wm. L. Putnam, has in five years given prenatal nursing care to 1,512 women in Boston. The results have been truly remarkable. Not one death occurred among these mothers during pregnancy, and but nine maternal deaths at confinement, 0.6 per cent in the full five years.

In the last three and a half years no miscarriages.

Threatened eclampsia, 60 the first year; two the last year.

Only four cases of real eclampsia have developed during this five year period.

The stillbirths, including premature births, were for two years less than half that of the rest of Boston.

Infant deaths—Total number under one month of age, 43 or 2.8 per cent, while Boston's rate in 1913 was 4.3 per cent.

Percentage of breast-fed babies, 84.7; percentage of mixed feeding, 4.5; total, 89.2 per cent.

After this five-year experiment the committee rest satisfied that prenatal care by the nurse visiting in the home at inter-

vals of not over ten days has demonstrated its efficiency in relieving suffering and preventing danger and disease in the mother, and rendering maternal nursing more successful, thereby reducing infant mortality.

Proceeding from this convincing demonstration the committee, backed by an advisory board of experienced obstetricians, have undertaken the next step; that is the more difficult problem of medical supervision during pregnancy and adequate care at confinement. Two dispensary prenatal clinics are now under the committee's supervision, one at the Peter Bent Brigham Hospital, the other at the Maverick Dispensary in East Boston. The committee stand ready to develop more of these prenatal and obstetric clinics as demand is made.

These clinics are under direct supervision of an obstetrician. They use as a basis to work with not the trained or untrained midwife, but the young obstetricians who are graduates of some maternity hospital, and the nurses of the Instructive District Nursing Association.

The work is gradually being standardized, for example: No patient before confinement may be visited by a nurse more than twice unless she has been examined by a private physician or by the obstetrician at the clinic. Thus the medical responsibility is carried by the doctor, which the committee feels is essential for the best results. Two simple examples will show the importance of an early medical examination. 1. A patient in South Boston was found after labor had progressed some time to have a too small pelvis for successful labor. A difficult operation resulted in the death of the mother and child. Had an early examination been made Cæsarean Section in a hospital should have saved hours of terrible suffering and both lives. 2. The district nurse made several visits, giving careful instruction, to a patient registered at a certain hospital, but not examined. Severe symptoms developed. Examination then disclosed the fact that the patient was not pregnant.

Such a system is designed to use the ever increasing medical and nursing knowledge and skill available in any community and to stimulate this to its highest efficiency. Results are not yet sufficiently numerous to warrant generalization.

For such an organization semi-free and free hospital beds must be available. We know that at any time during pregnancy the case may demand major surgery. Obviously the expense of this cannot be wholly met by the ordinary family of the crowded districts, nor even by those of moderate means.

The expense to the patient for care in these clinics is \$10.00 in E. Boston, where the dispensary guarantees to the obstet-

rician \$5.00 per case, while at the Peter Bent Brigham clinic the doctor, after confinement, is allowed to collect \$10.00 from the patient. The Instructive District Nursing Association receives \$2.00 in E. Boston, while in the Roxbury clinic \$5.00 covers the whole nursing service, both prenatal and postnatal.

One thing we find helps out in both places. Many women are insured in a certain large insurance company. The obstetric nursing is then paid for by this company. I wish to raise the question of maternity insurance to include a reasonable fee for the physician and thus provide the means for efficient service. There may be some objections. There certainly are many advantages.

THE SMALL CITY PROBLEM

Those familiar with our Transactions know what is being done in one of New England's smaller cities, Manchester, N. H., a distinctly manufacturing town. Here the medical society assigns certain physicians to care for poor women. These women apply to the City Mission, a central relief agency, and receive, if necessary, free medical, nursing and social care. The result is that the most active midwife in Manchester has moved to New York.

THE TOWN PROBLEM

The small town problem has been similarly met in Brattleboro, Vt. Again a central agency co-operating with the doctors directs the nursing and household care according to the need. This has proven a very economical system by using expert nursing only when needed, and less skilled workers under expert supervision when that care was safe.

THE LARGE CITY PROBLEM, BOSTON

Medical Conditions in Massachusetts

In order to understand the conditions of obstetrical service today in the crowded districts of Boston it is necessary to know a little of the general medical conditions of practice throughout the State of Massachusetts.

Briefly summed up, Massachusetts has undoubtedly many fine physicians, but Massachusetts has nevertheless the distinction of having, with three other states, the lowest legal standard of admission to practice in this country, which, by the way, is far below the average in most European countries. She has the oldest registration law in the country because the legislature has refused all attempts to raise the standard. Certain

special interests always oppose any advance, the public are ignorant, and the medical profession, as a whole, indifferent.

Candidates *without degrees* may here obtain a license to practice and many do. Candidates from the low-grade medical schools cannot be refused admission to the examinations for license. Thirty-two states including Porto Rico are refusing to examine them. The result is that Massachusetts is overstocked with physicians. The 1910 census shows one physician to every 541, in Boston one physician to every 357 inhabitants, while perhaps one physician to every 1,000 inhabitants is sufficient. Massachusetts, with a few other states, has become the *dumping-ground* for *poorly trained physicians*. Such poorly trained physicians gravitate to sections of least intelligence. The crowded immigrant districts contain more people least able to judge the caliber of a doctor, and least able to employ a good one. Here "business competition" is keen, infant lives are valued lightly, dollars are scarce. Under such conditions is it surprising that the poorly trained doctor has, in some cases, outstripped the midwife in producing infant mortality?

Few people even in Boston realize the magnitude of our population. Boston proper has a population of 752,000, with approximately 20,000 births in 1913. Metropolitan Boston has 1,500,000, which in twenty years will be, it is estimated, 2,000,000. Boston within a fifty mile radius has 3,500,000 (next in size to New York) Massachusetts receives approximately 100,000 immigrants annually. These figures suggest the magnitude of our problem.

To provide obstetric care for this population Boston shows the following hospitals, dispensaries, and other agencies in the field:

The Boston Lying-in Hospital in 1913 cared for 2,672 cases.

The Homeopathic Hospital in 1913 cared for 1,062 cases.

The St. Elizabeth Hospital in 1913 cared for — cases.

The New England Hospital for Women and Children in 1913 cared for 563 cases.

Besides these four hospitals with maternity wards there are nine (9) other hospitals caring for a few cases each in Boston proper, and eleven hospitals caring for 972 in Greater Boston.

Three dispensaries not directly connected with hospitals having maternity wards cared for 387 cases. They are:

Mt. Sinai Hospital Dispensary, Out-Patient Department—261

Peter Bent Brigham Hospital in Roxbury, Out-Patient Department—90

Maverick Dispensary in East Boston—36.

The prenatal nursing is all done with the exception of 83 cases (1913) cared for by the Boston Board of Health—Division of Child Hygiene—by the Instructive District Nursing Association giving home care to many of the hospital and dispensary cases, as well as to many of those under private physicians, numbering 1,966 prenatal cases in all in 1913. This nursing association is recognized as one of the most efficient nursing organizations in the world today. I wish here to offer my respects to the nurses and officers of this organization for their enthusiastic spirit which has lent inspiration to this work. As was pointed out last year at the State Conference of Charities the middle class do not, as a rule, benefit by using hospitals and dispensaries, but receive perhaps the poorest obstetric service.

As a result of this survey we may estimate that roughly one-half of our mothers in Boston secure what may be termed reasonable care. The other half, including the large and valuable middle class, do not now receive such reasonably safe care.

Private Practice

In private practice today the patients are learning to expect thorough prenatal care. But much of the maternity care is still given by the general practitioner, often untrained in this branch of surgery. One friend of mine among this number of general practitioners serves as an example. He tells me he dislikes this work and could afford to give it up but for the fact that it gives him his hold upon the family. If this is still so among the doctors of the well-to-do, it is even more the rule among the ever increasing number of doctors of the poorer districts who are struggling for existence.

Some physicians will find it useful and time-saving to have at least certain of their private patients visited by a nurse trained in giving prenatal care. The Household Nursing Association of the Woman's Municipal League of Boston are trying the experiment of furnishing obstetric nursing in the home for \$35.00 a case, intended to serve at cost those of moderate means.

To certain intelligent mothers Dr. Slemmons' recent book, "The Prospective Mother," may prove most helpful. One more important resource is thus suggested. This is the rapidly increasing *literature* on prenatal care. This literature is of three classes:

1. That intended for promoters or organizers of this work.
2. That intended for workers
3. That intended for mothers

A list of such literature is appended, together with the outline of a suggested plan for organizing prenatal work in a local community.

One other resource I wish particularly to call to your attention. Each year the Boston Lying-in Hospital graduates, after six months' service, eight or ten house physicians who have had at least a practical introduction to obstetrics and its problems. This number, with the men trained in other maternity hospitals, provides more than a sufficient number of trained men in the community to efficiently care for these thousands of cases. Yet in the present state of affairs they may not do this. Why?

1. The public is ignorant of their value.
2. The extra training which these men possess fits them for future successful practitioners in the well-to-do parts of the city where they, therefore, settle. Here they pass through a waiting period of idleness, eager to do obstetrics, but unwilling to jeopardize their future practice by living in the needy districts.

THE PROBLEM

The facts as I see them today in Boston are these: First, a large number of prospective mothers in our crowded districts are now wretchedly served, with the exception of the comparatively few private, hospital, and dispensary cases, by poorly equipped doctors working under the pressure of financial necessity, and a comparatively few careless, ignorant, often dirty midwives. Second, a sufficient number of young doctors, well-trained and eager for this work, striving however, for a lucrative practice in the wealthy sections of the city where much of the obstetrical care is still given, again because of financial necessity, by the family physician. Conditions in Boston then show the large need on the one side, and the knowledge and skill ready on the other, separated only by financial necessity.

Why have we a low standard of obstetric training in Massachusetts today? Obstetrics is one of the important subjects in which candidates are examined before a license to practice medicine is granted. I believe the Board of Registration in Medicine in Massachusetts is convinced that the present examination is not now and cannot be made, under our present laws, a sufficient test to insure knowledge, experience, and judgment in this department of medicine so vital to the community. This is the fundamental trouble—poorly trained doctors.

For the prevention of typhoid fever the state and city health

boards are active, and even the legislature *sometimes* make laws for this purpose, such as those intended to secure a pure milk supply. Why should they not take precautions to prevent unnecessary deaths and sickness in the baby supply?

One intelligent milk producer has traced the difficulty of selling *certified* milk in Boston at a reasonable profit to the ignorance and indifference of the physicians who do not even themselves buy certified milk and who seldom urge its safety to their patients. Those working at or near the source of the baby supply in Boston are convinced that here again the poorly trained doctor is the greatest factor for the production of dead babies and weak babies who die in the first month of life when the infant mortality is highest. This is a sad truth for a *doctor* to confess, but could a better thing be done for the profession than to have the standard of medical efficiency raised to such a point that the name of "doctor" should universally deserve its old-time ring of confidence?

Prenatal care may be the first step in getting good obstetrics, or it may be nullified by poor obstetrics. For efficiency the two are interdependent and inseparable. To those familiar with life in the crowded districts of our cities the problem of better obstetric care is only too evident. The workers in this field know that it is a vital family problem with the family little prepared. Successfully met it means a healthy strong mother able to nurse her baby. A nursed baby means another strong healthy citizen, a contributor to the State. Failure to meet the obstetric problem results, if not in two deaths and disaster to the family, at least in partial invalidism of the home-maker, the weakening of the infant's food supply. Inability to nurse means a weakened child, increased danger from disease, expense to the family, and too often a dependent on the community.

At least half of the infants who now die in the first month of life can be saved by applying our present medical knowledge and skill. New Zealand has already demonstrated this. Does this mean that the weaklings can be raised just above the death line? No, it means that the lives of thousands of strong, healthy babies can now, by preventing disease, be saved. It means more. It means that if our medical knowledge could be applied in a reasonable amount to the needy communities a far greater number of babies, now just above the death line, could be made stronger and more resistant, and meet successfully the high mortality of environment just ahead, where the milk station is already solving that problem. It means a stronger race.

PRENATAL CARE A PUBLIC HEALTH PROBLEM

Prenatal care evidently is fairly to be considered a part of Preventive Medicine, and should be given all the rights and privileges of its fellows. The deaths of mothers and children are as preventable as those from typhoid fever, and are far more numerous. Does it take much imagination to picture National, State and City health authorities laying plans for the prevention of death, disability and weakness from inefficient care during pregnancy and confinement?

Is it not conceivable that some day we may advance to the point of civilization where notice of expected babies may be required by the health authorities in order that these authorities may receive assurance that reasonable provision is made for the safety of mother and baby, and that preventable danger to valuable citizens may, by appropriate means, be foreseen and avoided?

Nowhere could the state or city spend money to better advantage than in safeguarding her mothers. One need not be a Socialist to believe this. One need not be an extreme religionist to believe this. One may be only a reasonable citizen with a kindly sympathetic heart toward one's neighbor and an eye for the general good of the community, like most of us, to believe it.

There is a campaign on in Massachusetts, for more and healthier cows, with which I have entire sympathy. But the time, thought, effort and money spent on this should be in due proportion to that spent for healthier mothers and more live, strong babies.

Pittsburgh, I am credibly informed, has recently been given \$3,000,000 to equip a maternity plant consisting of a modern hospital with local dispensaries and all the necessities for a complete service to the city. Boston, with a population greater by one-fifth, should have no less to care properly for its mothers. I am convinced that our greatest need in Boston today is a large maternity hospital as a central home for obstetrics. In touch with this central hospital, local dispensaries or health centers, doing prenatal work, bringing dangerous cases to the hospital, and caring for normal cases in their homes.

AN OLIVER WENDELL HOLMES HOSPITAL

It is the privilege of young men to dream dreams. As I am still on the young side of forty I will claim that privilege. This is the story of my dream which I have dreamed these many times the last few years as I have seen the great needs of Boston's motherhood. In 1843 Oliver Wendell Holmes, poet and professor of anatomy here at Harvard and a wise physician, wrote, "The disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses." This was the logical deduction of a keen observer with a clear, analytical mind, one of the really great discoveries of the past century. A few years later Pasteur confirmed this discovery by demonstrating the germ called streptococcus to be the organism transmitted by doctor, nurse and midwife, which produced this dread disease, which, in consequence, today, like small-pox, is only found where ignorance and carelessness prevail. This great discovery by Holmes and its confirmation by Pasteur set in motion a new idea of preventive medicine, *surgical cleanliness*. The application of this idea in obstetrics has been the greatest factor, ever since, for safety and comfort to the women of the world.

Boston today needs a large hospital established on broad, generous lines to be a home for obstetrics. I dreamed that an Oliver Wendell Holmes Hospital offering all the modern methods of safety to the women of the world had been established as a fitting monument to commemorate Boston's greatest benefactor of women; that women of Boston and Massachusetts, and of New England, had appropriately united in giving such an obstetric home, supported by public subscription, governed on broad humanitarian lines for the benefit of the public, calling to its head the best obstetrician obtainable in this country or abroad to assure the highest standards.

My dream ran on; the benefit to the patients of this hospital closely affiliated with a medical school showed that teaching and learning had advanced the science and art of obstetrics so rapidly that there were attracted to Boston not only many medical men from all over New England, in particular, to refresh and advance their knowledge in obstetrics, but also the prestige of the Holmes Hospital had opened the way through Boston's excellent facilities for medical research, such as the Carnegie Laboratory of Nutrition, the anatomical, physiological, chemical and embryological laboratories of the Harvard Medical School, had opened the way, I dreamed, to broad, scientific studies along modern lines in obstetrics, a much

neglected field in the science of medicine today. Boston grasped this opportunity, and by developing such an obstetric hospital, soon ranked with the other obstetric centers of the world, and thus gave to the women of Boston the safest and most efficient prenatal and obstetric service.

Again I dreamed that with this very democratic hospital to support and direct the work, prenatal and obstetric clinics were soon developed in connection with health centers in the crowded sections of our large city. The women of moderate means, the backbone of our civilization, found here in this hospital home of obstetric knowledge, opportunity for safe and comfortable care within the limits of their resources. I trust that I may some day wake to find this dream come true.

TO SUM UP IN CONCLUSION

1. The low legal standard of admission to practice attracts to Massachusetts men who could not enter practice in nine-tenths of the states of the Union. These ill-prepared men inevitably gravitate to the crowded districts. This is a fundamental difficulty.

2. A large maternity hospital with a broad and generous policy is Boston's greatest need in obstetrics today.

3. With the creation of such a hospital home for a base, the development of a net-work of prenatal clinics throughout the different sections of the city should be easy. The dispensary, the milk station and the settlement house as well as the facilities of other diversified hospitals could be utilized.

4. Where no medical students are available the *recent graduates* with maternity hospital training, and the district nurses, offer to Boston at least, and possibly to some other cities, the best hope for the development of a modern prenatal and obstetric service.

5. The comparative cost of such a service is probably no greater than that of establishing midwife schools with a system of license, inspection and supervision. The results, I am inclined to think, will bring more satisfactory returns in proportion to the energy, time and money expended.

6. How can the extra cost of such a modern service be met? Will *organization* and *co-operation* of present forces producing efficiency and economy help? Will *private philanthropy*, by experiments such as those the Woman's Municipal League are trying, help? Will the *Nation*, the *State* and the *City*, by wise administration of health laws, help? Will the development of *maternity insurance*, private or state, help? If so, in what proportion and under what organization?

7. This association whose sole motive is the public welfare has among its members those best qualified to solve these problems from a national and international point of view. A heavy responsibility rests with us to make wise decisions and adopt a reasonable, far-seeing policy.

I trust resolutions will be passed giving prenatal care its true significance in the logical development of proper care for our mothers and babies, looking to a stronger race.

CONSTRUCTIVE PROGRAM

I venture to suggest a constructive program for those who wish to promote prenatal work.

1. For each township or city district a *local committee* of from fifteen to twenty enthusiastic women. Such an organization has proved highly successful in New Zealand.
2. Form a plan of the work.
3. Make a study of the already available means, as.
 - a. Medical Society to furnish an obstetrician
 - b. District Nurses' Association
 - c. Milk Station
 - d. Charitable Organizations
 - e. Churches on a broad basis of human interest
 - f. Hospital beds for dangerous cases.
4. Become familiar with the literature of:
 - a. National Children's Bureau
 - b. New York Milk Committee
 - c. Russell Sage Foundation
 - d. State Agricultural College
 - e. Women's Municipal League of Boston, Committee on Obstetrics and Prenatal Care
 - f. Transactions of the American Association for Study and Prevention of Infant Mortality, and through them many other helpful literary contributions.
5. Estimate the Needs of the Individual Community.
6. Form a Finance and Publicity Committee.
7. Solicit the cooperation of the Women's Municipal League of Boston, Committee on Obstetric and Prenatal Care.
8. Obtain literature for distribution to prospective mothers who may be able to read.

Examples of the literature are:

Reports Committee on Infant Social Service of The Woman's Municipal League of Boston.

"Prenatal Care," "Birth Registration," "Baby Saving Campaigns"—and other publications of the U. S. Children's Bureau.

"Mother's Baby Book"—State Board of Health of Indiana and New York State.

Seventh Annual Report of New York Milk Committee, 1913.

- Transactions American Association for Study and Prevention of Infant Mortality
Reports of Brattleboro (Vt.) Mutual Aid Association.
Leaflet of the Household Nursing Assn. Women's Municipal League of Boston, 6 Marlborough St., Boston.
Health Bulletin, Dept. of Health of Virginia, Oct., 1913, No. 10, Vol. V., Richmond, Va.
"The Care of the Baby," Dept. of Child-Helping, Russell Sage Foundation. 130 E. 22nd St., New York, N. Y.
"Before the Baby Comes," New York State Dept. of Health, Division of Child Hygiene.
"The Prospective Mother," Dr. J. Morris Slemons; D. Appleton & Co.
"For Women who are About to Become Mothers" — Leaflet. Board of Health, City of Boston, Division of Child Hygiene.
"The Care of the Baby." Published by U. S. Public Health Service. Booklet for Mothers. Prepared by Committee of American Association for Study and Prevention of Infant Mortality.

DISCUSSION

Miss Fannie F. Clement, Supt. Red. Cross Town and Country Nursing Service, Washington, D. C.: In discussing Dr. Emmon's paper it is my purpose to consider several aspects of his subject as they pertain to rural communities. To outline what rural nurses are doing in this particular branch of public health work, as well as certain conditions that seem to impede its development, may indicate a few of the resources for giving prenatal care in country districts.

Granting that a wide range exists between what rural nurses are accomplishing in this line of work and what they may and should be doing, it is encouraging to note that most of them at least realize that prenatal care is important. Upon questioning some sixty visiting nurses in communities of twelve hundred and under, two-thirds of this number were found to be doing some prenatal visiting. Exclusive of this group, twenty out of the thirty Red Cross visiting nurses doing general work report on prenatal care, four of them giving it considerable attention.

The subject of the "Country Doctor" is so relevant to that of prenatal care, it should receive primary consideration. We know that there are many very able medical men in small communities throughout the United States. There are also many, who, through contact with visiting nursing agencies have disclosed characteristics which justify the following statements.

In small communities the visiting nurse has perhaps, from one to six physicians under whose direction her actual nursing

services are rendered. If there is but one, as not infrequently happens, it becomes absolutely necessary that she have his good will and cooperation. Otherwise her work cannot succeed. This attitude on the part of the physician in the country, is a much more important factor than in the large city where the sphere of the public health nurse as it relates to the medical profession, is much better understood, not only by doctors but by the laity in general, who lend her moral support. The absence of hospitals, dispensaries and other health agencies in country districts, leaves the greater responsibility in the hands of physicians and visiting nurse agencies in these sections, upon whom it devolves to create and extend a public sentiment favorable to health activities. Such work cannot be carried very far without the two acting harmoniously together. Because this cooperation is so necessary where there are but few physicians and a meagre public health conscience, the rural nurse in order to establish and maintain this cooperation often finds herself obliged to pursue her course as circumstances will allow and bide her time when certain measures now practiced in our large cities will be accepted in the smaller communities as well.

Not only are physicians in rural communities often few, but in many instances their lack of proper professional equipment and their unconcern for up-to-date knowledge in preventive medicine creates a difficult situation for the public health nurse who has had special training for her work. Regarding prenatal visiting particularly, this has been found to be the case. A rural nurse in Maine reports that she is not permitted by the local doctor to make prenatal visits, except in special instances. Another in a New York community states that she can but rarely make prenatal visits—that "medical men have yet to be won over on that point."

If the rural nurse seems to find certain restrictions upon her work for which local conditions are responsible, at the same time, she has a distinct advantage over the visiting nurse in the city through her knowledge of practically every family within her visiting area. Through her work with the school children, through her bedside nursing and her answers to many and varied calls, she not only knows almost everyone in her community, but can keep close track of their affairs. Those familiar with life in a small village or town, can readily appreciate how extensive her knowledge probably is. For the rural nurse, however, this knowledge means responsibility and an opportunity to render broader service.

Through the foregoing preliminaries it is hoped that the prenatal work of rural nurses may be better understood.

In a Pennsylvania community of 8,000 foreign population, where the visiting nurse is employed by an industrial company, she has gradually come to know practically every family. It has been her special endeavor to become friends with the mothers, so that they would allow her to make prenatal visits and be induced to employ physicians when their babies were born. The fact that the nurse washed the new baby clean, spread very rapidly among the mothers, as this had never been done by the midwives. Because a few mothers in the beginning liked the way the nurse cared for their babies, and first of all because they liked the nurse, all the mothers now call her, which means that the opportunity for prenatal visiting is greatly increased, that a physician is in attendance during delivery and that the midwives are seeking new fields. The two or three physicians with whom she works, turn over to her charge expectant mothers reporting to them, and she visits these cases weekly.

Through group meetings of mothers, rural nurses often endeavor to impress upon them the importance of reporting their pregnant condition to a physician early. Whether it is a group assembled for sewing, for study, or for teaching hygiene or household management, this subject may be presented to the mothers. More and more we find rural nurses starting classes for younger women as well, classes in emergencies or first aid, in home care of the sick. It matters little what the primary object of such meetings may be, for it is seldom difficult to arrange a program to include instructions upon health questions, touching upon the care of expectant mothers.

For the reason that the duties of school nurse, tuberculosis and infant welfare worker, general visiting nurse and sometime sanitary inspector devolve upon the rural nurse, we are not apt to find any one branch of public health nursing carried on as a specialty. Even though her bedside work may preclude other forms of social service it is all important that every rural nurse have an intelligent understanding of each branch, in order that she may know how the need for each may best be met. The training centers where candidates for the Town and Country Nursing Service of the Red Cross are placed for their preparation for public health work in the smaller communities include instruction in infant welfare and prenatal work. The prescribed instruction for the Queen's nurses in Great Britain also includes such training. Thus if the nurses thoroughly understand this work to a certain ex-

tent they can take the initiative in regard to its practice by sending patients to the physicians, that he may learn at least what she considers her duty in regard to such cases, and through her mother's conferences and other meetings she can extend teaching upon this subject.

When specimens are examined it is done by the physicians. In but one instance have we found the rural nurse making the tests.

In some communities, the doctors make prenatal visits to their own cases, sometimes leaving circulars pertaining to diet, etc. The distribution of such literature in rural communities serves a limited scope, but its use could most advantageously be broadly extended. Such circulars left in many a home by the physician or nurse, would be duly regarded.

Numerous country newspapers, usually a weekly, are now publishing articles upon various aspects of the nurses' work. Ample opportunity is thus afforded of bringing prenatal care and the whole subject of infant welfare before the public. Several of the Red Cross visiting nurses are sending such weekly articles to their papers, even though they continue to appear on the same page with advertisements of worthless, if not injurious, patent medicines for sick babies.

Magazines that are found in the home of the farmer, that reach families in our small communities, are seeking writers upon such topics. Outside speakers brought in for series of public meetings, and also exhibits, such for instance as this society sends out, cannot but aid in moulding public sentiment in respect to subjects with which they deal.

Perhaps you feel that I have strayed a long way from resources for prenatal care, but it is difficult to dissociate such resources from those for other public health activities when, as in rural communities, even these are so comparatively few. Organized effort of any kind is much more difficult than in the city, yet the changes in rural social conditions now taking place make us hopeful in the possibilities of the future.

My closing word deals directly with expectant mothers, and concerns the employment of women in rural communities as domestic helpers to relieve prospective mothers of their heaviest household duties, a practice that may be effectively encouraged by visiting nurses. A number of the nurses seek out such helpers for families where they are needed, who will pay for such services from two to five dollars a week. If this payment is not possible, friends and neighbors can often be induced to help out, even if a little urging by the nurse is necessary. In a southern village located on a hillside the fifty

families constituting this village had no nearer access to water for household purposes than a pump at the foot of the hill. Within one month last winter, five women on this hillside had miscarriages. The visiting nurse in that community feels very strongly that the carrying of the many pails of water up the hill by these women had much to do with this occurrence. The women in many rural districts working without conveniences of city life and therefore called upon for much physical exertion, surely stand in need of a special consideration less they be physically overtaxed to the detriment of themselves, their progeny, and the best interests of the community.

THE DEVELOPMENT OF PRENATAL CARE IN THE UNITED STATES

MRS. MAX WEST, The Federal Children's Bureau, Washington, D. C.

Last summer the nursing section of this Association extended to the Children's Bureau an invitation to present at this meeting a report on the Extension of Prenatal Care. The Bureau, accordingly, undertook the collection of the necessary material. A blank inquiry form was sent out to at least one address in each State of the United States and to the Philippines, Porto Rico, Hawaii and Alaska, making in all about one hundred and fifty persons or organizations addressed. In reporting the results of this inquiry I shall report by subject, rather than by city or organization. For this reason it will not be possible to mention each one by name but I have endeavored to cull the more striking facts from each reply and to group them together according to the subject matter, in order, if possible, to give the various statements greater force and to present them in a manner more suitable for discussion. In a few cases where no response was made to our inquiry, I have included a mention of the work of the organizations addressed, when it was known from other sources that they were engaged in prenatal work. Doubtless there may be some agencies engaged that were never reached by our letters, and the Children's Bureau will always be glad to receive reports of any such organizations.

A list of the agencies doing prenatal work is included with this paper. A copy of the questionnaire follows:

PRENATAL CARE

State..... City.....
Agency: Name.....
Address.....
Date of beginning prenatal work.....
How are the cases obtained?.....
Please describe the cooperation of your organization with other agencies in doing prenatal work.....
How is the work supported?.....
What extension of prenatal work do you propose?.....
Do your nurses make urine examinations? No. Yes. If not, what provision is made for urine examination?.....
In case any unfavorable symptoms are found, what is the procedure?.....
Please describe the instruction given by your nurses.....
What is the average length of time that cases are under supervision?.....
Do your prenatal nurses do any obstetrical or post-natal nursing? No. Yes.
If not, to whom are their cases referred?.....
Do you have any clinics or consultations for prospective mothers? No. Yes.
If so, please describe their work.....
What, in your opinion, is the value of prenatal work?.....

STATISTICAL STATEMENT

Period covered, from.....to.....

Mothers supervised	Visits paid	Births*	Live births	Still-births	Mis-carriages	Deaths of infants		
						1 day Under	1 to 7 days	8 days to 1 month

Deaths of mothers in childbirth			Cases of eclampsia		Cases of ophthalmia neonatorum			
Before	During	After	Threatened	Developed	Total number	Sight saved	Sight totally lost	Sight partly saved

If possible, give figures for your city as a whole showing by comparison what effect prenatal care is having upon the infant mortality rate, the proportion of miscarriages, still-births, deaths of mothers, etc. The form below is merely suggestive. Use the back of this sheet, if necessary.

Name of city.....

Year	Births*	Live births	Still-births	Mis-carriages	Deaths of			
					Mothers in child-birth	Infants		
						Under 1 day	1 day to 7 days	8 days to 1 month

* In cases of plural births, count each child.

HISTORY OF THE GROWTH OF PRENATAL CARE

Systematic prenatal work, undertaken as a recognized means of combating infant mortality and of improving the health of the succeeding generation, is distinctly a new idea; it is an idea which has sprung out of the conditions and convictions of the present. Only within the last few years has it been accepted as an essential and permanent part of the social welfare program of any considerable number of cities.

In thus asserting the newness of organized and socialized prenatal care, it should perhaps be said that obstetricians and competent physicians have long recognized the importance of watching over prospective mothers during the period of pregnancy and of giving them such care as was needed, but, unfortunately, only a small fraction of all such women ever come under the care of competent physicians, and this very absence of adequate prenatal and obstetrical care for thousands of women has become one of the most insistent of present-day problems.

The great work of maternity and lying-in hospitals with their dispensaries and out-patient services must also be recognized. A closer inspection of this group of institutions throughout the country would reveal a great amount of most valuable, but largely unrecorded work in behalf of expectant mothers, and several of the largest of these institutions, such as the Boston Lying-in Hospital and Dispensary, the Maverick Dispensary, the Chicago Lying-in Hospital, the Sloane Hospital for Women and the Lying-in Hospital in New York, the Babies Dispensary and Hospital in Cleveland, the Milwaukee Free Dispensary and Hospital, and others are now giving prenatal care, not merely as an incident, but as a recognized duty.

The same is true also of the visiting nurse associations throughout the country. For example, the Visiting Nurse Association of Boston did pioneer work in this direction, having begun in 1901 to instruct pregnant women in suitable care and hygiene. The Visiting Nurse Association of Chicago at least as early as 1906 was making an attempt to have physicians report pregnant patients to them as early as possible in order that the nurses might instruct them, and to have others make similar reports. The District Nursing Association of Buffalo began in 1909 to instruct mothers. At the present time, a number of the visiting nurse associations have put themselves on record as definitely pledged to do prenatal work as an object in itself, and not as an incident to other work. Among these are the associations of New Haven, Chicago, Washington, Detroit, South Bend, New Orleans, Baltimore, Boston, Fall River, Minneapolis, Elizabeth, Newark, Orange, New York, Cleveland, Cincinnati, Dayton, Buffalo, York, Milwaukee and Providence—but without a more careful inquiry it would be invidious to attempt to assign to each the proper date of entrance upon prenatal work, as a distinct field. It is therefore, impossible to fix an exact date for the beginning of the work in behalf of expectant mothers in this

country, for the reasons already given, namely, that maternity hospitals, visiting nurses and physicians had given this care to women without recording it as such before people were talking about it and before its social value had been fully recognized. It is the latter social and systematic phase of prenatal work which may fairly be said to be of very recent date.

The year 1908 apparently marked the beginning of prenatal work, as such, in New York, when it was begun by the Association for Improving the Condition of the Poor, in connection with Caroline Rest, and by the Pediatric Department of the New York Out-Door Medical Clinic. It was in 1909 that the Committee on Infant Social Service of the Women's Municipal League of Boston began what was probably the first experiment in prenatal work deliberately designed and undertaken for the purpose of testing the effect of such work upon the babies of supervised mothers. As soon as the results of even the first year of this experiment became generally known, a great impetus was given to the general interest in prenatal care. In August, 1911, the New York Milk Committee began the second notable experiment in the systematic care of expectant mothers. This experiment covered two years and at the end of that time the value of prenatal work had been so successfully demonstrated that the work was taken over by the Division of Child Hygiene of the City Health Department. These two experiments, deliberately undertaken for the purpose of testing the efficacy of giving proper care to women before childbirth, with their carefully analyzed results, have come to be the models for most of the prenatal work in this country, and have been copied abroad in one or two instances. In 1910 and 1911 this work was begun by several more associations in other cities, including Baltimore, St. Louis and Rochester, N. Y. In 1912 and 1913, about twenty more organizations reported the beginning of this work, and thus far in 1914, several additional ones have begun it.

AGENCIES AT WORK

The practical methods used in prenatal care differ with the agency engaged. These agencies include, first, the United States Government; second, State Governments; third, City Boards of Health; fourth, private associations working either alone, or in cooperation with public or other private organizations; and fifth, individuals. It might be more logical to turn this list about and begin at the other end, as the seed from which all welfare work grows is sown first in the mind of some individual. From him it is communicated to others who form

themselves into a citizens' organization, in order that they may have the power necessary to carry forward the work; when the work is once started others join with them and, finally, public health agencies either join forces with the private agency or take over its work entirely.

By far the greater part of all prenatal work is actually done by private organizations and the bulk of this report will be concerned with the work of these societies. It is only the logical arrangement that requires the mention first of the various governmental agencies, and not by any means their importance as contributors, which is but slight in comparison with that of private organizations.

The contribution of the United States Government is both direct and indirect. The first *direct* contribution and the first recognition of the claim of mothers, *as such*—both present and potential—to a distinct service from the Federal Government, was made in August, 1913, when the Children's Bureau published a pamphlet entitled "Prenatal Care," containing simple directions for preserving the health of prospective mothers. A few months later the Government made a second direct contribution through the Public Health Service which published a booklet on the Care of the Baby, written by a committee of this Association, containing a section devoted to the care of the prospective mother. These two pamphlets are distributed free of charge, and are having a wide circulation throughout the country. They constitute, as far as I know, the *direct* contributions of the United States Government to this work. The indirect contributions of the Government are, however, of great importance, and must never be overlooked. The work of the great Department of Agriculture, which has done, and is doing, so very much to improve home conditions for the vast number of women on farms, by making their lives easier and happier, has, no doubt, lifted some of the worst burdens from mothers and made them more capable of bearing healthy children. The Bureau of the Census has made a notable indirect contribution also, by the publication of the statistics of the deaths of infants by days, weeks and months. This set of figures, first published in the report on Mortality Statistics for 1910, is now being compiled for the fourth year, and, as time goes on, will become an invaluable register of the progress and efficiency of the work in behalf of prospective mothers.

In 1912 the Bureau of Labor Statistics of the United States Department of Labor issued a monumental report upon the condition of Woman and Child Wage-Earners in the United States. One of the volumes of this nineteen-volume report is

entitled *Infant Mortality and Its Relation to the Employment of Mothers*. This volume is full of material which pertains almost directly to the matter of our discussion.

Since 1912, also, the Children's Bureau has been carrying on an investigation into the causes of infant mortality in certain cities, the results of which as thus far studied, show appalling conditions among poor and neglected mothers.

WORK OF THE STATES

As with the Federal Government, the contribution of the various State governments is also direct and indirect. Among the most notable direct contributions are those made by certain states in the laws regulating the employment of women before and after childbirth. Such laws are now in force in four of our states, namely: Massachusetts, New York, Vermont and Connecticut. The Massachusetts Act, which became effective January 1, 1912, provides that:

"Section 1. No woman shall knowingly be employed in laboring in a mercantile, manufacturing or mechanical establishment within two weeks before or four weeks after childbirth."

This act was passed in response to a wide-spread and vigorous demand for some protection for the thousands of married women of child-bearing age employed in the mills and factories of the state, and because of the possible relation of this fact to the high infant mortality of the state at large.

In April, 1912, the New York Legislature passed a similar law:

"Section 93a. It shall be unlawful for the owner, proprietor, manager, foreman or other person in authority of any factory, mercantile establishment, mill or workshop to knowingly employ a female or permit a female to be employed therein within four weeks after she has given birth to a child."

In 1912 the Vermont Legislature passed an Act concerning the "Employment of Women and Children—Hours of Labor—Childbirth," of which Section 3 reads as follows:

"Section 3. No woman shall knowingly be employed in laboring in a manufacturing or mechanical establishment within two weeks before or four weeks after childbirth. This prohibition shall be included in the notice with regard to the employment of women required to be posted as hereinbefore provided."

And in May, 1913, the Connecticut law was approved:

"Section 1. It shall be unlawful for the owner, proprietor, manager, foreman, or other person in authority, of any factory, mercantile establishment, mill or workshop knowingly to employ a woman or permit a woman to be employed therein within four weeks previous to confinement or four weeks after she has given birth to a child."

The laws as passed in Massachusetts, Vermont and Connecticut provide for a period of rest both before and after the birth of the baby, while the New York law requires such a period only *after* the birth. The difficulties of administering and enforcing the law in either case, are great, but obviously these difficulties must be greater where the period of rest before childbirth is required, because few women, especially women of the class chiefly concerned, are able to predict the date of the completion of term with such accuracy as would be necessary. Even if they could do this, they would have additional motives for concealing the date if no provision were made for their support during these periods of enforced idleness. A law which will not work is not only a useless burden upon the statute books itself, but tends to destroy the efficacy of, and respect for, laws which will work. Possibly considerations of this sort influenced the minds of those who were responsible for the New York bill. But, however this may be, legislation can, no doubt, be devised which will work no injustice to the employers and will at the same time afford the prospective mother that protection at this period which is her right, and which enlightened governments realize is to their own advantage to give. Since this is a matter of such importance to the health of working mothers and in the prevention of infant mortality, possibly this organization may think it profitable to appoint a committee to consider the whole question.

One of the obstacles in the way of protective legislation of this sort is that unless it carries with it some provision for the payment of a woman's wages during the time when she is required to be away from work, the law will work hardship, where it was intended to relieve. This brings up the question of maternity insurance, which, while it cannot be entered into here, will be an inevitable part of any discussion of this question. Legislation of this kind has been enacted in Italy, Denmark, France, and several other countries of Europe, and even in Natal, South Africa, providing some form of insurance for mothers before or after childbirth, or at both periods. I recommend to the consideration of any committee undertaking a study of this phase of prenatal care a perusal of the paper by the eminent English economist, Dr. William Stanley Jevons, published in the *Contemporary Review* for January, 1882, on *Married Women in Factories*. The paper is also republished in a volume of Dr. Jevon's papers published in 1883, under the title "*Methods of Social Reform.*" In his paper, Dr. Jevons makes a most dramatically forceful statement of the abuses to

which the employment of child-bearing women leads, and discusses many plans for the improvement of these conditions.

The following excerpt is taken from one of the recent papers by Mr. Edward Bunnell Phelps, of New York, who has made at least three notable contributions to the published discussions of the subject:

"Both Denmark and Norway provide for financial aid for the mothers prohibited from employment, when such aid is necessary, and in neither case is the aid so given to be considered as 'poor relief.' It is in Italy, however, that by far the most advanced provision is now made for a maternity fund for the support of working women in case of childbirth. The present law for the establishment of a national maternity fund was enacted on July 17, 1910, after a protracted discussion of the subject reaching back about fifteen years, and thus was established the first national institution for maternity insurance in the world. The employer, the employee, and the State contribute to the fund, the annual contribution for women between 15 and 20 being one lira (19.3 cents), and for women between 20 and 50 two lire (38.6 cents), of which one-half is paid by the employer. The State adds a contribution of ten lire (\$1.93) in each case, or one-fourth of the total of forty lire (\$7.72), which is paid to each working woman in case of childbirth, on condition that she discontinue work for seven weeks."

The subject of the protection of mothers by state legislation has been or is now being discussed in various other states, among which are Maryland and New Hampshire, but save in the four states above noted, there are no state laws in existence upon this matter.

In order to show the position of the United States and its several states on legislation of this kind as compared with that of European countries, a statement of the laws enacted in twenty-two foreign countries is here inserted. (Courtesy of the Wisconsin Legislative Reference Bureau):

Appenzell (Switzerland), Apr. 26, 1908, Sec. 6.

Permits pregnant women to leave work after merely announcing intention to do so. Forbids employment for 6 weeks after childbirth. v. 3, 1908, p. 124.

Argentine Republic, Oct. 14, 1907, Sec. 9.

Forbids employment within 30 days after confinement; place to be kept open for her. Allows 15 minutes in every 2 hours for nursing infants. v. 3, 1908, p. 28.

Austria, May 29, 1908, Sec. 52.

Women approaching confinement not to be employed in places of exceptional danger in stone quarries, etc. v. 3, 1908, p. 139.

December 26, 1911.

Forbids employment of women in mining industry until 6 weeks after confinement. v. 7, 1912, p. 21.

Berne, Switzerland, Feb. 23, 1908, Sec. 16.

Permits 8 weeks vacation. Requires 4 before and at least 2 after childbirth. v. 3, 1908, p. 335.

Bosnia, Austria Hungary, July 5, 1908, Sec. 8.

Forbids employment within 4 weeks after confinement. v. 4, 1909, p. 7.

Denmark, 1906, No. 171, Sec. 11.

Forbids work during 4 weeks following confinement; provides assistance from public funds. v. 1, 1906, p. 181.

France, Nov. 27, 1909.

Forbids employer to regard suspension of work during the 8 consecutive weeks before and after childbirth as a breach of contract, provided the woman notifies him of reason for absence. v. 5, 1910, p. 104.

December 8, 1909, Sec. 1.

Forbids employment of women in carrying, hauling, or pushing any kind of weight within 3 weeks after confinement if employer has been informed of date of confinement. v. 5, 1910, p. 232.

April 29, 1910.

Circular of the Minister of War relating to the granting of a nursing bonus to female workers who suckle their children. v. 7, 1912, p. 363.

July 13, 1911.

"The provisions of the act dated 15th March, 1910, granting leave of absence for two months, together with full treatment, to teachers in the case of confinement, shall apply to the female staff of the Department of Posts, Telegraphs and Telephones." v. 7, 1912, p. 377.

June 17, 1913.

Absolves pregnant women from liability for breach of contract. Forbids employment within 4 weeks after delivery; permits 4 weeks rest before with daily allowance for 4 weeks before and after confinement. v. 3, 1913, p. 294.

German Empire, Dec. 8, 1908.

Requires 8 weeks altogether; 6 weeks after confinement. v. 3, 1908, p. 335.

Greece, Feb. 6, 1912.

Forbids employment 8 weeks before and 4 weeks after confinement. Places to be kept open for them. v. 7, 1912, p. 287.

Italy, June 14, 1909.

Requires certificate that 1 month has elapsed since confinement. V. 5, 1910, p. 299.

June 16, 1907.

Forbids employment of women in rice fields for a month before and a month after confinement. Pregnant women must have medical certificate to show length of pregnancy. v. 3, 1908, p. 183-195.

July 17, 1910.

Provides for compulsory contributions by employer and employee to maternity fund. v. 7, 1912, p. 28.

Japan, March 28, 1911.

"The proper minister may issue regulations restricting or prohibiting the employment of sick persons or pregnant women. v. 6, 1911, p. 269.

Lichtenstein, Saxony, April 30, 1910.

Forbids employment for 4 weeks after confinement. v. 5, 1910, p. 385

Netherlands, Feb. 14, 1910.

"It shall not be lawful for a woman in an advanced state of pregnancy to be employed in skewering herrings after 10 o'clock in the evening. v. 6, 1911, p. 89.

October 20, 1911.

Forbids employment within 4 weeks after confinement. Date of confinement to be recorded on working ticket. v. 7, 1912, p. 5.

New South Wales. (Act amended, 1909)

No female shall be employed during the 4 weeks immediately after her confinement. v. 7, 1912, p. 177.

New Zealand, 1908.

A woman shall not be employed in any factory during the four weeks immediately after her confinement. v. 4, 1909, p. 30.

Norway, Sept. 10, 1909.

Forbids employment within 6 weeks after confinement. Relief to be granted in necessitous cases not to be considered poor relief. v. 4, 1909, p. 346.

Portugal, July 17, 1909.

Women shall not be put to any labor during approximately the last 30 days of their pregnancy and the first 30 days after their confinement. No deductions shall be made from their wages during such period.

During the first 6 months, nursing mothers shall only be employed in light work in or about the house or outhouses. v. 5, 1910, p. 431.

Roumania, Feb., 1906.

Forbids employment within 1 month after confinement. No wages. Situation kept open. v. 4, 1909, p. 46.

Servia, July 12, 1910.

Women shall not be employed 6 weeks before and 6 weeks after confinement. v. 6, 1911, p. 199.

South Africa—Natal. May 27, 1910. (Relates to Indian immigrants.)

Forbids employer to require work from pregnant woman after 7 months and until child is 3 months old. Employer to provide her with food and rations on minimum scale of original contract. v. 6, 1911, p. 49-50.

Spain, Jan. 8, 1907.

Forbids employment within 6 weeks after confinement. Permits cessation of work on leave in 8th month of pregnancy. Situation to be kept open. v. 2, 1907, p. 22.

Ticino (Switzerland), Jan. 15, 1912.

Forbids employment of pregnant women after working hours. v. 7, 1912. p. 293.

Although the United States is sometimes rather severely criticised for having so little protective legislation of this kind, yet we must remember that after all, the necessity which led to the enactment of such laws abroad does not, in many instances, exist in America, and their enactment attests the difference between the standard of life in many foreign countries and that in America. Although we do have laws on our statute books protecting women working in stone quarries and mines, these laws are in most cases copies of the English laws on the subject and were not passed because of any particular need for them, since it is not usual in this country to put such labor nor the heavy work of the fields on women. But we do need to protect our women in the industries where they are required to work long hours, standing at machines, or wherever the conditions of work are unfavorable to them, and to secure for them the relief which will make it possible for them to nurse their own babies. That there is an awakening on the subject in this country is shown by the fact that many large manufacturers are adding a social service worker to their force of employes and providing a room where mothers may come to nurse their babies at stated intervals. One of the largest Baltimore manufacturing companies has opened such a room, and appointed a matron for it, who is to work under the supervision of the Babies' Milk Fund Association of that city.

Some protection is doubtless afforded pregnant working women by the various state laws regulating the number of hours per day and per week which women may work. Such laws exist in a large number of the States—California, Arizona, Colorado and Washington having an 8-hour law for women, as has also the District of Columbia.

Another direct contribution to prenatal work by states is made by a few state departments of health. Oregon has the honor of being thus far the only state, as far as we are informed, which has issued a pamphlet concerned only with the care of prospective mothers, but other states, notably New York, Indiana, Illinois and Iowa, have issued booklets for the instruction of mothers in the care of their babies, which usually include some simple instruction in prenatal hygiene.

One of the nine divisions of the State Department of Health of New York is the Division of Child Hygiene. Through this division the baby welfare work has been extended to thirty-two cities of the state, besides New York City, and in all of them a certain amount of time is devoted to prenatal instruction. Also in connection with three infant welfare exhibits, sent about the state to county fairs and other places, the nurses in charge give some instruction to pregnant women.

It would seem that New York hardly needed any other machinery in order to undertake systematic prenatal work throughout its cities and towns, than this well organized division of Child Hygiene, but that if required, there was an abundance. The state is divided into sanitary districts, each under a sanitary supervisor, charged among other things, with promoting "the information of the general public in all matters pertaining to the public health." Besides the sanitary supervisor, there is the Sanitary Council, a body recently created by the New York Legislature, with power to establish a sanitary code for the state, outside of New York City, and the bill says:

"The sanitary code may deal with any matters affecting the security of life or health or the preservation or improvement of public health in the State of New York."

In addition, there is provision for a system of rural nursing, which might include maternity work, if thought desirable. Surely with all these great agencies at work upon the health problems of the state, there can be no lack either of machinery or of authority, if those in charge should decide to direct some part of their effort upon systematic, organized prenatal care.

Although there is generally no great amount of activity in state boards of health on the subject of prenatal care, some of the replies received indicate that they are waking up. Money is the chief need. The secretary of the Arizona Board writes that nothing can be done without an increased appropriation. Dr. Hurty writes that in Indiana they are now bending all their energies to securing medical inspection of school children, and that when this is secured and in operation they will take up prenatal care. Nineteen state boards report that they are doing no prenatal work, and make no suggestions as to future activity.

Another contribution of state governments appears in the laws requiring the prompt treatment of ophthalmia neonatorum. In 1913, twenty-three states had such laws. It would be interesting to know how successfully these laws are carried out, but for most of the states there are no available data.

By an extension of our subject, the law lately passed by the Wisconsin legislature, providing for the sterilization of the unfit, and that requiring a simple health test of each party before the granting of the marriage license, might reasonably be included. Similar laws exist in other states.

THE WORK OF CITIES

Passing from the Federal government and state governments to city governments, there is evidence of progress in prenatal work. In several cities of this country, including Boston, Fall River, New York, Rochester, Schenectady, Philadelphia and Erie, Pennsylvania, Duluth, Newark, Detroit, Cleveland, Richmond, Los Angeles and Milwaukee, among others, the city boards of health are carrying on prenatal work either directly or by cooperation with private associations. The reports from these boards of health are, in general, the same, namely, they show great interest in prenatal work, but that lack of funds prevents them from doing any more work than they are regularly charged with doing.

New York City, through its Bureau of Child Hygiene, has been doing prenatal work since January, 1914, and has adopted the plan of work demonstrated so successfully by the New York Milk Committee, and as fast as possible is taking over the work of that committee. At present eight nurses are covering eight milk station districts. Requests have been made for increased appropriation for doing prenatal work.

The Division of Child Hygiene of Boston began doing prenatal work in July, 1911. They have supervised over 1,200 mothers since that time and are asking for additional nurses. They publish a leaflet giving easily understood advice for health in pregnancy.

The Division of Child Welfare of the City Health Department of Los Angeles has been engaged in prenatal work for a number of years and is asking for additional nurses.

The Health Department of Richmond, Virginia, has included prenatal work in its campaign for the reduction of infant mortality in which they have been engaged since 1910. In Duluth, Minnesota, the Health Department is doing some prenatal work, but puts most of its strength upon postnatal problems. In Jacksonville, Florida, the Board of Health pays the salary of a nurse who works under the direction of the infant welfare society. Similar cooperation between the city health department and the infant welfare organization is carried on in Boston, Fall River, Detroit, New York and other places. The Health Department of Rochester, New York, began prenatal

work in 1911, under the auspices of the Woman's Union, but were compelled to give it up for lack of appropriation. Buffalo invites expectant mothers to the milk stations and gives them timely advice. Milwaukee canvasses the city for cases and hopes to have enough workers to cover the entire city. The Health Department of Newark took up prenatal work in January of this year, and hopes to add an out-patient obstetrical service.

PRIVATE ORGANIZATIONS

As has been said, by far the most extensive prenatal work now under way in this country is being carried on by private associations. Among these are visiting and district nurse associations, infant welfare associations under many names, maternity and lying-in hospitals and dispensaries, diet kitchen associations, settlements and churches.

The reports made to the Children's Bureau indicate that at present more than fifty such organizations are engaged upon prenatal work, in about 40 cities, in 20 states. Cooperating with the principal society or organization are many others, so that a greater social force is really engaged than the above figures would indicate. Among the cooperating forces are charity associations under a variety of names, missions, settlements, life insurance companies, women's clubs, Masonic orders, tuberculosis associations, school centers and school nurses, churches, milk stations, doctors, ministers and social workers. It must be said, however, that although this would appear to be a large and effective array, it is true in most cases that prenatal work is as yet being done in a small way in connection with some other form of welfare work, or is still quite in its infancy. It is a matter of gratification to note the number of associations beginning work in 1913 and 1914, as indicating the tendency toward the inclusion of prenatal work in our social programs.

A list of all organizations reporting prenatal work is included in this report. Two or three names appear in this list which are not doing the actual work to any extent, but which for some reason deserve special mention. Thus, from Hawaii we learn that the last legislature passed an appropriation for the establishment of a Bureau of Child Hygiene, but that the work has not yet been started by the city. It appears, however, that Palama Settlement, Mr. James A. Rath, head-worker, is carrying on an active campaign in behalf of mothers and babies in the islands. They have nine nurses and hold clinics three times a week at the Settlement House where mothers and children are examined by a local physician. The list follows:

ORGANIZATIONS REPORTING PRENATAL WORK

CALIFORNIA :

Division of Child Welfare, City Health Dept., Los Angeles. Began 1898.
Margaret F. Sirch, Chief Nurse. 7 nurses. 3 clinics per week.

University of California, Medical School, 2nd and Parnassus Ave., San Francisco. Began 1913. Dr. J. Morris Slemmons. 256 mothers.

CONNECTICUT :

Infant Welfare Association, 200 Orange St., New Haven. Began 1912.
Dr. Joseph S. Linde, Medical Director. 75 mothers.

DISTRICT OF COLUMBIA :

Instructive Visiting Nurse Society, 2506 K St. N. W., Washington, D. C.
1913. Miss Grace Hillyer. 73 mothers. 1 clinic per week.

FLORIDA :

Infant Welfare Society, Jacksonville. 1912. Miss Josephine N. Rugg.

HAWAII :

Palama Settlement, King and Liliha Sts., Honolulu. James A. Rath,
Head Resident.

ILLINOIS :

Chicago Lying-In Hospital and Dispensary, 1336 Newburg Ave., Chicago,
1895.

Mary Crane Day Nursery, 818 Gilpin Pl., Chicago. 1908. Miss Myrn
Brockett, Supt. 21 mothers.

Visiting Nurse Association of Chicago, 104 South Michigan Ave., Chi-
cago. 1889.

INDIANA :

Children's Dispensary and Hospital Association, 1031 W. Division St.,
South Bend. 1912. 18 mothers.

KANSAS :

Topeka Public Nursing Association. 1914. Miss Marguerite Bullene.

KENTUCKY :

Babies' Milk Fund Association, Louisville. 1913. 63 mothers.

LOUISIANA :

Child Welfare Association, 427 Gravier St., New Orleans. 1912. Dr.
W. W. Butterworth.

MARYLAND :

Maryland Association for Study and Prevention of Infant Mortality, 10
E. Fayette St., Baltimore. May Frances Etchberger, Nurse-in-charge.
1911. 2,295 mothers.

MASSACHUSETTS :

Division of Child Hygiene, Health Department, City Hall Annex, Boston. 1911. 1,238 mothers.

Boston Lying-In Hospital, 24 McLean St. 1911. Charlotte W. Dana, Superintendent. 1,377 mothers.

The Maverick Dispensary, 18 Chelsea St., Boston. 1913. 25 mothers. Dr. A. B. Emmons, Superintendent.

Committee on Infant Social Service, Women's Municipal League of Boston. Mrs. William Lowell Putnam, Chairman, 49 Beacon St. 1909. 1,512 mothers.

Massachusetts Homeopathic Hospital, E. Concord St. Dr. W. F. Bailey, Superintendent, Out-Patient Department, 31 E. Newton St., Boston.

Instructive District Nurse Association, 561 Massachusetts Ave., Boston, 1901. Miss Mary Beard, Director. 870 mothers.

City Board of Health, 18-24 City Hall, Fall River. 1913. Samuel B. Morriss, Agent.

District Nurse Association, Fall River, Holyoke and Springfield.

District Nurse Association, Pittsfield.

MICHIGAN :

Babies' Milk Fund Association, 924 Brush St., Detroit. 1913.

MINNESOTA :

Health Department, Duluth. 1912. Jas. I. Murphy, Medical Inspector.

Infant Welfare Society of Minneapolis, 923 Plymouth Bldg. Dr. F. W. Schlutz.

University of Minnesota, Medical School, Minneapolis. Dr. F. L. Adair.

NEW HAMPSHIRE :

Visiting Nurse Association, Concord. Miss M. B. Smith.

Visiting Nurse Association, Berlin. Mr. Wolf.

NEW JERSEY :

Visiting Nurse Association, 122 Magnolia Ave., Elizabeth. 70 mothers.

Division of Child Hygiene, Department of Health, 207 Market St., Newark. 1914. Dr. Julius Levy. 245 mothers.

Diet Kitchen of the Oranges, 124 Essex Ave., Orange. 1914.

NEW YORK :

State Department of Health, Albany. Dr. Henry L. K. Shaw, Director. Auburn, starting work.

District Nursing Association, 181 Franklin St., Buffalo. 1909. Ada B. Shaw, Supt. 780 mothers, July, 1913-1914.

Bureau of Child Hygiene, Department of Health, New York. 1914. Dr. S. Josephine Baker, Director. 903 mothers.

New York Diet Kitchen Association, 1 W. 34th St., New York. 1912. Maria L. Daniels, Supt. 620 mothers.

New York Milk Committee, 105 E. 22d St., New York. 1911. Paul E. Taylor, Secretary. 2,642 mothers.

Sloane Hospital for Women, 447 W. 59th St., New York.

Rochester Health Bureau. Dr. George W. Goler.

Schenectady. Dr. Arthur Wells.

Baby Welfare Committee, Utica. 1913. Dr. T. Wood Clarke, 240 Genesee St. 121 mothers.

OHIO :

Maternity Society of the Protestant Episcopal Church, 220 W. 7th St., Cincinnati. 1912. 198 mothers.

Babies' Dispensary and Hospital, Bureau of Child Hygiene, 2500 E. 35th St., Cleveland. 1912.

Visiting Nurse Association, 127 S. Ludlow St., Dayton. 1911. Miss Elizabeth G. Fox, Superintendent of Nurses. 92 mothers.

PENNSYLVANIA :

Infant Welfare Nurse, Board of Health, Erie. 1913.

Starr Center, 7th & Catherine Sts., Philadelphia. Albert L. Jones, Gen'l Sec.

Division Child Hygiene, Health Department, Philadelphia.

Pittsburgh Maternity Dispensary, 3406-3408 Fifth Ave., Pittsburgh. 1913.

Visiting Nurse Association, York.

RHODE ISLAND :

Providence District Nursing Association, 109 Washington St., Providence. 1914.

VIRGINIA :

Health Department, Richmond. 1910. Dr. E. C. Levy.

WISCONSIN :

Maternity Hospital and Free Dispensary, Milwaukee. 1906.

Milwaukee Health Department, Milwaukee. Dr. E. T. Lobedan, Chief, Division of Child Welfare.

It is altogether right to include in this catalogue also the name of this Association, which by calling the attention of the United States and other countries to the subject of prenatal care and in affording an opportunity for a presentation and discussion of it at their annual meetings has given a most important impetus to the movement. A committee of this Association, of which Dr. Mary Sherwood is chairman, has also prepared a leaflet, now available for distribution, giving simple and excellent directions for the care of the prospective mother.

The National Organization for Public Health Nursing is also interested in this subject, through its Committee on Infant Welfare. The association has already given its attention to the matter of prenatal care, and will consider it further. If our general public health nurses shall come ultimately to include prenatal instruction as an important branch of their activity, the benefit will be without measure, and at once prenatal work will be carried into a phase hardly yet contemplated, namely, that concerned with rural districts and villages.

It is proper to mention, also, the great work of the Committee on the Prevention of Blindness in New York, and of the Massachusetts Commission for the Blind in the educational campaigns they are carrying on, specifically in regard to the prevention of ophthalmia neonatorum.

Two or three large universities include some prenatal instruction in their teachers' lecture courses. Prenatal work undertaken, but given up afterward, or transferred to other organizations is also mentioned in this list.

METHODS OF WORK

The blank forms sent out by the Children's Bureau during the past summer for the purpose of this inquiry asked for information on 16 subjects (see page 69.) :

1. State and City
2. Name and address of agency
3. Date of beginning prenatal work
4. How cases are obtained
5. Describe cooperation
6. How work is supported
7. Proposed extensions
8. Examination of urine
9. Procedure with unfavorable symptoms
10. Instructions given by nurses
11. Length of time cases are under supervision
12. Do prenatal nurses do obstetrical and postnatal nursing?
13. To whom are cases referred?
14. Clinics or consultations
15. Value of prenatal work
16. Statistics

How Cases are Secured

Beginning with the fourth subject, namely, the method by which the cases are obtained, our reports show that with a few exceptions this is as yet wholly informal. The visiting nurse comes upon the cases in her rounds, mothers report themselves if they have had previous care from a nurse, or are reported by neighbors and friends, by missions, churches, relief organizations, settlements, charity associations and especially by milk stations and infant welfare stations. In a few cases, as in Baltimore and Providence, the association receives weekly reports from certain large hospitals of the cases which have registered there, and in Boston, Mrs. Putnam's committee formerly received regular reports of registered cases from the

Boston Lying-in Hospital. Where the city is districted for nursing purposes, as in New York, Boston, Richmond, and many other cities, a house-to-house canvass for prospective mothers is sometimes made, to such an extent as the nurses' time permits. There is as yet apparently no standard way of bringing the pregnant women under care and instruction, and I trust that a plan for systematic, and possibly *automatic* methods for bringing this about will develop in this discussion. This is actually accomplished abroad, in certain cases, by the fact that in order to collect their maternity benefit it is necessary for pregnant women to register. Judging from the reports we received, it appears that the method in this country which so far approaches most nearly a standard plan is that which requires a house-to-house canvass by the nurses assigned to given districts, possibly using the lists of registered prospective patients furnished to them by hospitals and dispensaries as a basis. Two or three of our reports call attention to the great difficulty they have in securing cases. The ideal plan is one by means of which every woman who needs such care and who is not under the observation of a private physician shall be brought to the attention of those who can give her this care, by some means which will involve no shock to her pride, but which will seem to her the ordinary and necessary procedure. The importance of this care should be made so plain that women will seek it; the knowledge of it so common that the least well-informed will know about it. One of the problems is how to secure this publicity.

Cooperation

The next point in our list was cooperation in this work. This has already been referred to in speaking of the forces engaged in the work. As has been said a great many agencies are engaged to a greater or less degree. It is very difficult to tell from the written reports just how effective this cooperation is. But there is no doubt that it is the only basis upon which any adequate work of this nature can be carried on as long as the burden of it must rest upon private organizations. One of the most conspicuous instances of successful cooperation is that in New York City where practically all welfare agencies cooperate with the Division of Child Hygiene. The Babies' Welfare Association of that city has about eighty cooperating agencies back of its great work. Similar cooperation is enjoyed in Boston, also in Baltimore, in Cleveland, Newark, Providence, New Haven, and in fact, in most cities reporting.

Fall River, Massachusetts, reports an interesting instance of cooperation:

"The board of health does not do prenatal work independently, or directly by means of its own agents, but it does aid all of the other agencies doing prenatal work in Fall River by a regular and organized system of cooperation, and many of the prenatal cases treated at the pregnancy clinics and by the public health nurses were obtained through registered infant deaths and are at once reported to the District Nursing Association of Fall River. The circumstances attending each birth and death are studied by the district nurses in the homes where they occurred. Each home where the death occurred, or the infant was born in poor condition is then visited until two years have elapsed, or the mother is again pregnant, when prenatal care is at once given * * *. The close cooperation of the Board of Health, the District Nursing Association and the Pregnancy Clinic of the Union Hospital makes it possible to state that an extension of the sort of work now done by all these agencies seems the wisest and most efficient plan for the future. The increase in prenatal work in Fall River is limited only by the amount of money available for this purpose and every month sees an increase of the number of cases under observation and care."

The Milwaukee Maternity Hospital and Free Dispensary Association cooperates with the Associated Charities, County Poor Office, Milwaukee Society for the Care of the Sick, City Health Department, Visiting Nurse Association, Big Sisters, Jewish Relief and others.

In Newark there is cooperation between the hospitals and the Maternity Aid Society, Visiting Nurse Association, various relief societies, and the Tenement House Commission.

Baltimore, also, enjoys a well worked out scheme of cooperation, which includes many agencies.

The ideal plan for prenatal work should include a suggestive statement of various plans of cooperation, in order that a community seeking information regarding prenatal care may accept the one which is especially adapted to its needs.

Support

Except where prenatal work is done by city nurses and physicians, or where, as in Elizabeth, New Jersey, the city makes a stated contribution to the support of the work of some private organization, it is supported chiefly by private subscriptions and voluntary contributions, save for the small amount resulting from the fees of students and patients.

The work of the Milwaukee Maternity Hospital and Free Dispensary Association is supported by the combination of public donations, benefit performances, tag days, and from the fees of pay patients. Ten per cent of the patients pay wholly or in part. A very large part of the support of all prenatal work comes, as in all welfare and social work, from the generous unpaid service of doctors, nurses, and the others engaged upon it. The best methods of securing adequate funds should form part of the discussion. Under this head, should come a consideration of publicity methods best adapted to this end.

Urine Examination

In answer to the question, "Do your nurses make urine examination?", nineteen replied, "No," and ten, "Yes". Where this examination is not made by the nurse, some other provision is made for it, and whenever unfavorable results are disclosed the cases are referred to hospitals, dispensaries or outside physicians for treatment.

Urine examinations are made by the nurses of the Milwaukee Hospital and Free Dispensary Association every two weeks up to the seventh month of pregnancy, and every week from that time until the end of pregnancy. Blood pressure tests are made alternately with the urine analysis.

Instructions Given by Nurse

The uniformity on this point is striking. There seems to be a general agreement that the nurses should advise regarding diet, clothing, fresh air and exercise, baths, daily bowel movements, avoidance of alcoholic drinks, avoidance of heavy and taxing labor leading to fatigue, care of the breasts, the special importance of maternal nursing, and also regarding the preparations for confinement, and the clothing for the baby. The nurses also watch for all suspicious symptoms and urge the necessity for medical care.

It would take comparatively little work to evolve a standard set of instructions and one regarding which there would be little disagreement. In Cleveland a committee consisting of the Superintendents of Nurses, of the Bureau of Child Hygiene, of the Visiting Nurses Association, and of two Maternity Hospitals, have worked out a scheme of uniform instruction of mothers, to be used by the nurses under them, and in Boston the Instructive District Nursing Association has a printed set of instructions for the use of their nurses. These might be used as a basis for a standard set.

Clinics

Twenty-five organizations report that they hold clinics or consultations for prospective mothers, once or twice a week. Some of these are held at the Infant Welfare stations, some at dispensaries, and some at hospitals. In addition to the obstetrical clinics where pregnant women are examined, advised and treated, classes in sewing and in otherwise preparing for the coming baby, are often held. At the Mary Crane Day Nursery in Chicago and at the South End House in Boston, this kind of instructive work is made a special feature. Starr Center in Philadelphia, one of the latest settlements to begin prenatal work, reports that it intends to institute Mothers' Classes, as part of its work. Several cities report difficulty in inducing mothers to come to the clinics and consultations. When, however, they can be induced to come the talks are of special value in educating them and an obstetrical clinic, if held, is of even greater value. A weekly obstetrical clinic has lately been opened by the Babies' Milk Fund Association in Baltimore at Locust Point, a remote part of the city, chiefly of foreign population, whose women would not employ a man physician. The clinic is in charge of a woman physician, and is already meeting with gratifying success. In a section thus situated at a great distance from hospitals and dispensaries, it is of untold service. Clinics and consultations are likely to be very greatly developed, as this work goes on. Several organizations report that they have plans for them under consideration.

The visiting physician of the Boston Lying-in Hospital, in his report of the work of the Pregnancy Clinic of that institution says:

"A chief object of the pregnancy clinic is not alone the prevention, early detection, and amelioration of the various complications of pregnancy, but to so far promote maternal general good health that mothers may go to full term, bear living children, and suckle them at least during the early months. In all urban communities appallingly large numbers of infants die before birth, soon after premature birth, and even after full-term delivery when poorly vitalized and artificially fed. To diminish this great waste of infantile life is the great present effort of pregnancy clinics and lying-in charities."

Early Registration

One of the most important features of an ideal plan is to provide for the early registration of mothers, in order that the cases may be under observation as long as possible. Our re-

ports show that while a few cases have been brought under care for eight or nine months, the average length of time is three months, and the largest number in the last month or two of pregnancy. In this connection, Dr. J. Morris Slemmons, Professor of Obstetrics of the University of California Medical School, writes as follows:

"As you might expect, the greatest difficulty we have met has been in getting patients to register early. In a number of cases the registration has been so near the date of confinement that no visit could be made, and even in more fortunate cases we have frequently been unable to make more than one or two visits. On the other hand, in a few cases the number of visits has been as many as 17 and in a still larger number 8-10 visits have been made, but the average, as indicated on our blanks, has been two visits. I would add, however, that I have included only those visits when the patient was found at home. Frequently this was not the case. Again I have not included visits made by the patient to the dispensary. If both these factors were taken into count instead of a total of 564 visits we should have about 1,500 visits."

In Milwaukee the hospital holds clinics for prospective mothers daily (except Sunday). Usually three staff physicians are present and upon the first visit a thorough physical as well as obstetrical examination is made. The history and findings are recorded. Pelvic measurements are made, and in case of deformity the probable method of treatment during or before labor is decided upon. Abnormal positions are remedied before labor. Toxemia is anticipated and treated. Instructions in the preparation of the breasts and nipples are given. Prevention is the motto of the clinic.

In case of impending toxemia or the presence of albumen in the urine the patient is placed upon a restricted diet. Elimination is effected and the patient visited daily. In more than 1,000 registered prospective mothers they have never met with a case of eclampsia, but have found it in a few emergency cases that had received no antepartum care.

Part of the educational side of an ideal plan should be directed to setting forth the advantages of early registration in such a way that it will attract the attention of the mothers. Possibly a few "case histories" might well be published, illustrating this point, but some plan of maternity benefit seems likely to prove most effective.

Literature

The reports made to the Children's Bureau include a good deal of interesting printed matter, including a number of score cards and other forms for recording prenatal care. The importance of using a standard method has already come before this association, and, there is, I believe, a committee report on the subject to be made at this meeting. Besides these record blanks, a considerable number of leaflets were sent in. The Medical School of the University of California, has leaflets in various languages to distribute to mothers, and the leaflet published by this Association has already been mentioned. There are several pamphlets also, containing advice to prospective mothers. Among these are those issued by the Health Departments of Providence, of New York City, and of Boston, and those issued by the State of Oregon and New York. In addition are the printed reports of the work of various organizations doing prenatal work, which furnish a valuable bibliography of such work.

The Results of Prenatal Care

The results of prenatal care are uniformly reported to be excellent. The opinions given as to its value are so stimulating that I am including a brief resume of them in this report. The question asked was—What in your opinion is the value of prenatal care?:

CALIFORNIA:

Los Angeles; Division of Child Welfare, Health Department:

"Aid in registration of births, prevention of premature or still-births, better health for mother and babies, lowering of infant mortality, regulation of housing, encouragement of breast feeding."

San Francisco; University of California Hospital:

"Our largest opportunity, and by far the most interesting feature of our work, has related to the early detection of toxemia. In our 256 cases we found a noteworthy amount of albumen in 42 instances, or 16½ per cent. Some of these were in no sense alarming, and others were due to inflammation of the bladder and ureters. There were 8 cases of sufficient severity to be considered threatened eclampsia, and in another case convulsions actually developed. It has interested us that the early detection of the albuminuria has enabled us to get excellent results in all the cases with conservative treatment. The fact that radical measures for terminating pregnancy were not required is distinctly complimentary to prenatal work.

"Although none of our prenatal cases ended fatally, we have had during the year two fatal cases in a total of 450 cases treated. In one of these instances I can say unhesitatingly that prenatal care would have saved the woman's life as she died from a toxemia of pregnancy. In the other instance, however, where death resulted from peritonitis,

due to the rupture of an old inflammatory process in the pelvis, I am afraid prenatal care would have been without any effect. In our efforts to improve the service we naturally are endeavoring to get patients to register early. To accomplish that we have had notices printed in four languages, and these are distributed in every possible way so as to reach patients that may be benefitted."

CONNECTICUT:

New Haven; Infant Welfare Association:

"Controls health of mother and child and especially greatly diminishes number of miscarriages."

DISTRICT OF COLUMBIA:

Washington; Instructive Visiting Nurse Society:

"More enthusiastic and intelligent preparation for confinement. Much more interest in postnatal care of infant."

ILLINOIS:

Chicago; Mary Crane Day Nursery:

"The relaxation of the mother."

Chicago; Lying-In Hospital and Dispensary:

"Very great indeed. but it is expensive. We cannot get enough nurses and doctors to do the work. In private practice the people are too poor, or unwilling to pay for the care they need before labor. It is *impossible* for a physician to give all pregnant women the amount of time and work they should have for the small fee they can or will pay."

Chicago; Visiting Nurse Association:

"Both mothers and children are better for our care; women are stronger and more comfortable; the babies are given a much better start in life. Our careful oversight has prevented a great deal of needless suffering on the part of the mother and we like to believe that a Visiting Nurse baby starts life with less of a handicap than the average infant born into a poor home."

INDIANA:

South Bend; Children's Dispensary and Hospital Association:

"We consider it a most important factor in reducing infant mortality, as much can be done to improve the general health of the prospective mother, care during child-birth and encourage breast feeding."

LOUISIANA:

New Orleans; Child Welfare Association:

"Most valuable."

MARYLAND:

Baltimore; Maryland Association for Study and Prevention of Infant Mortality (Babies' Milk Fund Assn.):

"It enables the agency to reach many babies during health who, without help, would become ill and sometimes die. It keeps the expectant mother under constant observation, brings treatment to her without which she would suffer. Most important form of welfare work and should be the last to be given up. Gives marked increase of breast feeding."

MASSACHUSETTS:**Boston; Division of Child Hygiene, Health Department:**

"A very important factor in the campaign to reduce infant mortality. A very important function of government."

Boston; Maverick Dispensary:

"From the physician's standpoint prenatal work is the highest point of the obstetric art, to successfully predict the outcome and meet the problems of each case by proper medical, nursing and social resources. From present statistics and present obstetric service in large cities this field of prenatal work offers today the greatest field for reducing infant mortality and maternal suffering and loss both by morbidity and mortality."

Boston; Committee on Infant Social Service, of Women's Municipal League:

"Inestimable. Reduction of miscarriages, premature and still-births. Higher birth weight and greater vitality of baby. Reduction in cases of eclampsia, both developed and threatened and in other maternal illness. Promotion of peace of mind."

Boston; Lying-In Hospital:

"Of the most vital importance in the prevention of infant mortality and providing proper obstetrical care for cases that would otherwise terminate unfavorably."

Boston; Instructive District Nursing Association:

"Chiefly educational; better babies, of course, but also better homes for the following babies; more breast-fed babies, fewer flies, cleaner milk, more cleanliness, fresh air and sunshine, more hygiene and sanitation."

Fall River; Board of Health:

"It seems already to have slightly reduced the number of infants dying before birth or within a few hours of birth, and the excessive infant mortality of Fall River largely consisted of still-births in the widest use of that term."

Fall River; District Nursing Association:

"Fewer accidents at delivery, healthier babies and more intelligent care of the babies after birth, also healthier mothers."

MICHIGAN:**Detroit; Babies' Milk Fund:**

"In the early supervision of mother and child to avoid the beginning of bad care."

MINNESOTA:**Minneapolis; Infant Welfare Society:**

"Has exceptional value if thoroughly carried out."

Minneapolis; University Free Dispensary:

"It is of the greatest value."

MISSOURI:

St. Louis; Social Service Department of Washington University Hospital:

"This investigation of the effect of prenatal care is in line with similar investigations which are being made in other cities of America and in Europe, in order to prove to the general public a fact which is a truism among the medical profession, namely, that prenatal care is a prime factor in the reduction of infant mortality. The overwhelming number of deaths among infants under one month old is in a large percentage of cases due to adverse living and working conditions of the mothers during the prenatal period, and to ignorance of the simple laws of personal and home hygiene."

NEW JERSEY:

Elizabeth; Visiting Nurse Association:

"We have been enabled to have several prospective mothers who intended to have midwives at delivery secure proper prenatal care. The clinic has only been opened a year and M. D.'s feel it has been of great benefit."

Newark; Department of Health:

"Early medical supervision; lessens midwifery practice; prepares women for nursing and care of baby."

Orange; Diet Kitchen of the Oranges:

"Educational."

NEW YORK:

Buffalo; District Nursing Association:

"It will make better mothers and better babies. The educational opportunity to the mother cannot help but produce permanent results."

New York City; Bureau of Child Hygiene, Health Department:

"Great value in effecting a reduction of the general infant mortality and morbidity, more particularly from congenital diseases and during the first month of life. Decrease in the number of still and premature births. Encouragement and increase of maternal nursing. Prevention and reduction of disease and injuries to the mother. Betterment of home conditions. Improvement in the tone of midwifery because of increased supervision. Diminution in the number of cases of ophthalmia neonatorum. Bringing mothers and babies under the educational and prophylactic influences of milk stations immediately after the first month of life, establishing a confidence in the mothers which will cause them to seek this instruction in future pregnancies."

New York City; Diet Kitchen Association:

"It seems to us a logical and necessary part of baby welfare work, and, in view of the effect on the mother, an important phase of general health work as well."

OHIO:

Cleveland; Bureau of Child Hygiene, Babies' Dispensary and Hospital:

"I think there is a great need of prenatal work. Owing to lack of funds, which means lack of nurses, we are not doing a thorough piece of work, but simply carrying it on in connection with our other work, because we recognize the very great importance."

Dayton; Visiting Nurse Association:

"Among working mothers we can do little about work and sleep, but accomplish something in regulating diet, and bowels, in increasing consumption of water, and especially in driving out the midwife, and getting patients to hospitals for delivery, or arranging for proper care at home."

PENNSYLVANIA:

Pittsburgh; Maternity Dispensary:

"Indispensable in preparing the woman for her approaching confinement, in correcting abnormal positions of the fetus, for preventive treatment of the toxemias of pregnancy, discovery and timely treatment of abnormalities and complications," etc.

York; Visiting Nurse Association:

"It is of inestimable value."

RHODE ISLAND:

Providence; District Nursing Association:

"Prenatal instruction prevents many mistakes, and results in the babies being born in better condition, and consequently a lower death rate."

VIRGINIA:

Richmond; Health Department:

"Of inestimable value. This division of our work is undeniably more successful than any other."

WISCONSIN:

Milwaukee Maternity Hospital and Free Dispensary Association:

"It saves the lives of mothers and babies. Systematic and intelligent prenatal instruction and treatment is probably more important than intelligent care of the mother during labor, important as the latter may be. Prenatal work is the most promising field for preventive medicine."

Milwaukee; Health Department:

"Breast feeding. Better babies."

One of the most important results of good prenatal care, and one which deserves special mention is the prevention of ophthalmia neonatorum. This is accomplished for two reasons, first because the preliminary care and visiting of the mother may lead the nurse and physician to suspect that the disease will appear, and second, because the nurse has gained the mother's confidence, and she will be more likely to submit the baby to the needed care.

STATISTICAL RESULTS

In surveying a piece of work as recent as prenatal care, we cannot, in justice, expect to find statistical results of any great importance. Owing to the small number of mothers thus far under supervision, and the frequent lack of comparable city figures, there are only a few instances in which the figures given furnish any adequate measure of the possible results of prenatal care. In certain cities, however, the figures are large enough to afford striking evidence of the value of this kind of welfare service. These results have been most carefully worked out in three or four instances, namely, in the experiments of the Committee on Infant Social Service of the Women's Municipal League of Boston, in those of the New York Milk Committee, and in the work of the Social Service Department of Washington University Hospital in St. Louis. These instances are, therefore, selected for the purpose of showing what results may be expected from prenatal care when it is given on an extended scale.

In St. Louis the experiment covered one year, from May 1, 1912, to May 1, 1913, and included the supervision of 334 pregnant women. The report compares the figures for St. Louis as a whole with those for this group of instructed mothers. The results show that the number of stillbirths per 1,000 living births was 13.1 less, and that the proportion of deaths of the infants before the end of the first month was 6.3 per thousand less among the instructed mothers than among all the mothers in St. Louis.

Prenatal care was undertaken by the New York Milk Committee as a deliberate attempt to demonstrate the efficacy of such care in preventing stillbirths and miscarriages, in increasing breast-feeding and in securing healthier babies. In the two years, August 1, 1911, to November 30, 1913, covered by the report, 2,644 women were supervised. The stillbirth rate for Manhattan for the same period was 47.5. The stillbirth rate in the supervised cases was 39.8, showing a saving of nearly eight in every thousand. It should be remembered, however, that a large proportion of the stillbirths are not reported. The death rate per 1,000 of babies under one month was reduced from the Manhattan rate of 40 to 27.9 in the babies of supervised mothers, and of the 2,507 babies living at the end of one month, 2,338 or 93 per cent were breast-fed.

The longest, in point of time, and most carefully analyzed experiment in prenatal care reported, is that undertaken by the Committee on Infant Social Service in Boston. Accordingly the results of this work have added weight. The reports

show that the proportions of stillbirths, premature births, and cases of eclampsia and miscarriages have gone steadily downward, while the weight of babies at birth has been increased by a few ounces above the average. In Mrs. Putnam's report made before this Association last year, she stated that the still-birth rate in the cases supervised by her committee had not exceeded 18.6 per thousand for the past two years, while the rate for the City of Boston had varied during the past 20 years between 33.1 and 44.7 per thousand. Premature births were but .4 of one per cent. Breast-feeding had also been increased. For some time the committee has been taking the blood pressure of the mothers under its care, for the purpose of determining its value as an indication of unfavorable conditions during pregnancy. The results will be published very soon.

The rate of stillbirths per thousand living births for the Pregnancy Clinic of the Boston Lying-in Hospital in 1913 was 28.9, while the rate for the City of Boston was 39.8 and for Manhattan 48.6.

To sum up, then: It appears that we have excellent proof of the fact that prenatal care systematically and intelligently carried on, will result:

- 1 In healthier babies, of somewhat increased weight
- 2 In lowering the infant mortality rate
- 3 In reducing the number of stillbirths
- 4 In reducing the number of miscarriages
- 5 In reducing the number of premature births
- 6 In a greater proportion of normal deliveries
- 7 In reducing the number of cases of eclampsia and toxemia
- 8 In greatly improving the possibilities for maternal nursing
- 9 In increased health for the mother
- 10 In improving birth registration
- 11 In helping the study of social and civic problems
- 12 And in bringing greater comfort and peace of mind to harassed and overburdened mothers, thereby increasing the sum total of human happiness to an appreciable degree.

It must also be remembered that the effect is cumulative, also. To take a mother through her pregnancy and labor without mishap; to give her a healthy baby, whom she feeds at her own breast, is to increase, many fold, the chances of a happy home. Such a woman will be a better wife and a better

mother; all future children of such a mother will have a better start in life, and the sum total of good resulting is enormous. It is necessary to contrast such a case with the misery and wretchedness which pregnancy and childbirth among the very poor only too often mean, to realize the full value of prenatal care.

THE IDEAL PLAN

It is hardly necessary to call attention to the importance of standardizing prenatal care. As is quite to be expected in the beginning of any work, it is still in an unformed state. Much of the work so far has been frankly undertaken as an experiment, but this stage has now passed. The value of prenatal work has been abundantly demonstrated and the crying need for it is seen on every hand. It should be an object now to work out the best methods. This has already been begun in New York, where the sub-committee on Infant Welfare Stations of the Babies' Welfare Association of that city has evolved such a plan. A copy of their report is included with this paper, and also a copy of a similar report made by the Boston Prenatal Committee.

BABIES' WELFARE ASSOCIATION, New York City

Report of the Committee Appointed by the Sub-Committee on Infant Milk Stations of the Babies' Welfare Association to Standardize Prenatal Work

The members of the Committee are:

Dr. Florence M. Leighton
Miss L. N. Woodruff
Dr. William E. Weber
Dr. Lee W. Thomas, Chairman

The Committee formulated the following as a standard for the prenatal work in New York City:

I. PURPOSE OF PRENATAL WORK

1. Reduce infant mortality and diseases of early infancy
2. Reduce the number of still and premature births.
3. Reduce the number of complicating diseases of pregnancy
4. Promote intelligent motherhood and maternal nursing.
5. Bring the new-born baby under the influence of the infant milk station as early as possible

II. SCOPE AND CHARACTER OF WORK

1. Registration of cases as early in pregnancy as possible; registered cases to remain active until one month after confinement.
2. Method of registration of cases. Agencies with neighborhood center should register prenatal cases by districts; other agencies should register cases through a central office
3. Provide instructions on the hygiene of pregnancy and the care of the new-born baby

4. Provide, where complications exist, medical supervision
5. Provide, through nursing agencies, out-patient departments of hospitals and dispensaries or through midwife agencies, adequate care at confinement
6. Provide, where needed, various forms of relief through co-operation with established relief agencies
7. Maintain systematic and complete records of cases handled and services rendered

III. ORGANIZATION, METHODS AND PROCEDURE

1. To issue periodically information as to the number of births; number of deaths of mothers and infants; number of cases supervised and services rendered.
2. Select nurses with aptitude for the work—tact, sympathy, cheerfulness and ability to impart knowledge to be paramount consideration in selecting nurses for this work.
3. Regarding the provision of office in each district; agencies with neighborhood center should provide a center where mothers may consult at a stated time with the nurses and physicians and through which they may be assisted in cases of emergency. Other agencies unable to provide such a center should receive emergency calls through their central office.
4. Agencies with neighborhood center should provide a room at the center in which examinations and consultations may be conducted with a proper degree of privacy. Other agencies should provide for examinations and consultations through the local dispensaries, or maternity clinics.
5. Establish a personal contact with the family physician or midwife and make known at once the exact function which the nurse intends to perform.
6. Establish a definite course of instructions to be given in all prenatal cases and emphasize by repetition those points which the particular case may require.
7. Classify registered cases by streets and arrange so that as little time as possible may be lost in travel.
8. Ante-partum visits for the purpose of instruction and supervision should be made at least every 10 days. Post-partum visits should be made at least every 3 days during the first week and thereafter at least every 5 days until case is terminated.
9. The work of the nurses should be confined to instruction and supervision of cases. In addition to the personal instruction of cases the nurse should distribute literature regarding prenatal work.

IV. RECORDS AND REPORTS

1. Maps of the district should be provided to show the exact boundaries of the district; a system of colored pins being used, that the distribution of the various class of cases by blocks may be visualized.
2. Case records should provide for recording the medical and social history as well as current information as to services rendered and progress of the case. Such a report should contain:
 - a. The name and address of father and mother
 - b. Date of registration and how received

- c. Number of case
- d. Nature of father's employment, father's wages, rent
- e. Place and kind of employment of mother
- f. Number of previous pregnancies
- g. Number of living births—full term—premature
- h. Number of stillbirths—full term—premature
- i. Number of living children, their age
- j. Number of deceased children, their age; cause of death
- k. Date of last menstruation
- l. Date of expected confinement
- m. Arrangements for confinement

POST PARTUM RECORDS

Care, relief extended, nurse service, medical service, confinement, character of birth, feeding

Daily report to contain the following: number of cases received, number of cases terminated, number of cases carried forward, nurse's visits, home visits, deaths

As a result of the conference on prenatal work held at the South End House, Boston, January 3, 1912, a committee was appointed to present a statement of prenatal work and also to suggest how best to organize it throughout the city and to bring into closer connection the various agencies doing this work. This committee reported as follows:

REPORT OF COMMITTEE ON PRENATAL WORK

South End House

Boston

I. STANDARDS AND METHODS OF PRENATAL WORK

The committee has attempted to formulate a standard which includes both the social and medical sides of prenatal work from the nurse's point of view. The work of the prenatal nurse is purely an adjunct to the medical attendant. She is to accept no medical responsibility but is simply to follow up and see that the physician's advice is and can be carried out. The importance of early, intelligent, and continued medical supervision the committee insists upon. The patient should be followed from as early in her pregnancy as is possible. Experience has shown that the nurse's first visit in a patient's home must follow as soon as possible after the patient's first visit to the medical attendant. If the nurse, as will often be the case, when the work becomes better known, sees the patient first, her immediate duty will be to insist that the patient place herself under medical supervision. The condition of the patient and her progress during pregnancy will indicate the necessity for more frequent visits, or at the discretion of the medical attendant may allow of less. The frequency of the nurse's visits must of necessity depend upon the amount of time and money that is at the disposal of the organization carrying on this work. The committee however feels that the nurse should see the patient in her home at least once in two weeks and that the patient must report to the medical attendant as often as he may determine. The idea that we hope for is to

have the patient seen once a week especially in the latter months of her pregnancy. The committee suggests forms for the medical and social record which are subjoined. The committee is strongly of the opinion that uniformity of records among the various agencies doing prenatal work is much to be desired.

II. ORGANIZATION

1. Cooperative Districting: The committee believes that the different agencies doing or planning to do prenatal work should agree upon the boundary lines of districts, in order that there be but one prenatal nurse in each district. The committee appreciates that no such general plan can be adopted on a large scale at once, but believes that every effort should be made by the various agencies to move in this direction.

2. Work of prenatal nursing should be arranged in a co-operative plan with such agencies as the various hospitals, the Instructive District Nursing Association, the Milk Stations of the Milk and Baby Hygiene Committee, the District Physician Call Stations of the Boston Dispensary, Social Settlement Houses, local offices of the Associated Charities, etc., so as to provide the most ready methods for securing the services of prenatal nurses when needed, and for transferring cases from one agency to another as demanded. The committee feels that the Milk Stations are of especial importance in this field, inasmuch as their work is the natural sequence of the work of the prenatal nurses, also, from their medical touch with families the Milk Stations will refer new cases for prenatal care.

3. The committee therefore recommends that so far as possible a system of conferences for expectant mothers be worked out by utilizing existing agencies.

4. In order to carry out as fully and rapidly as practicable the programme adopted by this Conference, the committee recommends the formation of a permanent committee of seven members.

File No.....

PRENATAL NURSING: SOCIAL SCHEDULE

Name..... Age.....M. S. W. D.
 Addresses
 Date appliedDate first visit
 BirthplaceNationality
 English-speakingKnown C. H. of I.
 Interested Individuals and Agencies

All above this line to be filled in at or just after first visit

Number roomsNumber occupants
 Home Conditions
 OccupationDate ceased work

HOUSEHOLD

Individual	Date of Birth	Place of Birth	Occupation
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

(These records to be put on cards 4" x 6")

File No.

PRENATAL NURSING: MEDICAL SCHEDULE

Name.....Expected date of confinement.....
 Patient referred from.....
 Referred to medical supervision of.....
 Past history of patient.....
 Medical history of previous children.....
 Symptoms of present pregnancy.....
 Urine.....Bowels.....
 Nausea or vomiting.....Teeth.....
 Vaginal discharge.....
 Recommendations made:
 Fresh air; exercise; diet; clothing (corsets); avoid lifting and reaching; work not too hard; avoid intercourse.
 (These records to be on card 4" x 6" with the following on the back)
 Date of confinement.....
 Labor.....Normal.....Abnormal.....
 Condition of mother.....
 Condition of child.....
 Sex of child.....Birthweight of child.....lbs. oz.
 If premature, why?
 If still-born, why?
 Child and mother referred to.....(hospital, clinic, milk station, etc.)

VISITS

(Note physical condition; substance of reports of urinary or clinical examinations; also any unusual occurrence on social side (out of work, charity, death in family, etc.). Give date of each visit.)

(These records to be put on cards 4" x 6")

These plans should afford an excellent basis for discussion. A plan which is well adapted to New York or Boston would probably have to be modified for use in smaller cities where the conditions are different.

Any such plan must consider:

- 1 Necessary publicity.—It is indispensable to any big plan that the people shall understand what is proposed and why and how not only mothers and babies, but the community as a whole, will benefit from it
- 2 The best method of getting the mothers to register
- 3 The most effective plan of cooperation
- 4 The matter of financial support
- 5 The kind of instruction prenatal nurses shall give
- 6 The matter of clinics and consultations
- 7 Medical assistance

- 8 Provision for adequate obstetrical care
- 9 What records should be kept and the matter of standardized records—and score cards
- 10 The printing and distribution of helpful literature
- 11 The best way of securing constant and friendly interchange of experience and the wisdom thus gained between the different states and cities of this country
- 12 Legislation affecting the matter

The reports made to the Children's Bureau, which I have attempted to epitomize, show what are the present working methods and suggest further ways in which the work may be made more effective, and this material is available as an additional basis for working out an ideal plan. It is probable, also, that Dr. Williams will suggest many ways in which all of our present methods may be adopted or modified in order to produce more adequate results.

THE NEED FOR PRENATAL CARE

It is hardly necessary, I feel sure, to present to this assemblage the arguments for doing prenatal work. The fact that Dr. Williams has chosen Prenatal Care as the subject of his presidential address, which we shall hear to-night, shows what prominence this idea is to have during this meeting. It would seem that it should no longer need argument. Every social and welfare worker who has done any thoughtful work in behalf of infants can hardly have failed to perceive that, however noble and beautiful such welfare work is, much of it is, after all, but palliative, and that it cannot possibly reach back into the remoter causes of all the mass of suffering which they see among the children of the poor. The babies are here and now. Their illness, defects, lack of development, their weakness and suffering make a present and insistent demand upon all our resources. To provide the proper hygienic care for the babies and young children of the poor, *alone*, is a problem which taxes the power of every organization engaged upon it, and they are showing splendid results in the reduction of infant illness and death. Nevertheless, there is much of such work which, at best, must always be blessedly remedial but only partly preventive. Recognizing this, those who have been doing infant welfare work for some time are the very persons who are undertaking to establish some sort of supervision over expectant mothers, in order to get as far back as possible into the life of the infant and to surround the mother with the care that will conserve or restore her own health and make it pos-

sible for her to produce a healthy baby, whom she feeds at her own breast. When the majority of people adopt this point of view, prenatal care will become the starting point for all children's welfare work, as not only the more effective, but also the more economical. When we are giving all mothers who cannot get it for themselves suitable care before and during childbirth, we shall thereby rid ourselves of no small part of our present burden. Take, for example, the matter of breast-feeding. It is the testimony of nurses and physicians generally, that if the mother's nipples are properly looked after in the last few weeks of pregnancy, her diet suitably chosen, and the necessary attention given to her general health, many more women will be able to nurse their babies. Now, a very large part of all our present welfare work for infants is necessarily concerned with the securing of a substitute for mothers' milk, and a very large part of infant death and illness is properly attributable to a lack of it—accordingly, if we can make a steady increase in the number of women capable of breast-feeding, we shall thereby wipe out the need for much of the work we are now doing at great expense, both of money and effort. Not only this; we shall inevitably produce a race of healthier babies.

"The first requisite for success in life is to be a good animal; and to be a nation of good animals is the first condition of national prosperity," says Herbert Spencer, and that prenatal care helps to create a race of good animals is a fact recognized by most stock breeders. It has been established beyond question that the babies of mothers who have been properly cared for stand a better chance than otherwise of being born strong and healthy.

The records of one of the important pieces of prenatal work in this country prove that the average weight of the babies of supervised mothers is seven pounds, eleven ounces (including premature babies), which is several ounces higher than the general average weight at birth. If, therefore, prenatal care will serve to produce robust babies instead of weaklings, is it not evident that there will be less need for hospitals for weak, sick, improperly developed babies? The annual expenditures in this country for the institutional care of children run into the millions, including the care of the blind, deaf, defective, sick, orphaned and deserted children; what is expended for and by these children in sorrow, bodily and mental suffering, and wretchedness of every sort, is beyond all measure. Just what an adequate system of prenatal care for expectant mothers would do toward reducing the number of children necessarily

under public care, it is, of course, impossible to state, but I venture to say that if a fraction of the money required to maintain these institutions were spent on the protection of poor mothers during pregnancy—in providing proper obstetrical care, and in some form of maternity insurance which would make it possible for women employed in gainful occupations to have suitable periods of rest before and after childbirth—the output of blind children, of defective and deficient children, and of sick and weak children, would, in a few years, be reduced in no slight degree. It is not inconceivable that such care might also lead to a reduction in the numbers of those orphaned and deserted, since mothers will tend to be healthier and become longer-lived when they receive adequate prenatal and obstetrical care.

The insistent demand for better care of future mothers, beginning a few years ago and now being heard on every hand, springs chiefly from the conviction forced upon us of the shocking mortality among infants in the earliest weeks of life. Not only do more babies die in the first month of life than in any other one month, but the number of these early deaths is slowly but significantly increasing. This fact is brought out by comparing the reports on mortality statistics of the Bureau of the Census for the three years past. These figures are corrected to include the same registration states in 1911 and 1912 as in 1910.

DEATHS OF INFANTS

(Registration area only)

Year	Under 1 year	Under 1 day	Per cent	Under 1 week	Per cent	Under 1 month	Per cent
1910	136,350	13,265	10	32,168	24	51,206	38
1911	122,426	14,406	12	33,320	27	51,194	42
1912	120,715	15,358	13	34,179	28	52,018	43

The table shows that the number of deaths of infants under one month of age has remained fairly constant, although the total number of deaths of infants under one year has decreased from about 136,000 in 1910 to about 120,000 in 1912, a decrease due, largely, it is supposed, to the constantly smaller number of fatal diarrheal cases. This is a signal victory for the pure milk and infant welfare workers, and is evidence of the general awakening of interest in baby-saving. But the table shows that

this movement has not as yet reached back into the fundamental causes of infant deaths. It is almost unnecessary to argue that when a baby dies under one day or one week of age, the cause of its death reaches back into conditions that were operative upon it before its birth or at the time of birth. Among those infants who died under one month of age, post-natal conditions might be supposed, theoretically, to figure to a greater or less extent. The following table analyzes the causes of these early deaths:

DEATHS OF INFANTS

(Registration area)

Year	Under 1 year		%	Under 1 day		%	Under 1 week		%	Under 1 month		%
	All causes	Prenatal causes		All causes	Prenatal causes		All causes	Prenatal causes		All causes	Prenatal causes	
1910	136,350	41,815	31	13,265	12,430	94	32,168	26,617	83	51,296	35,078	68
1911	122,426	45,385	37	14,466	13,660	94	33,320	27,977	84	51,194	35,973	70
1912	120,715	47,620	39	15,358	14,633	95	34,179	29,415	86	52,018	37,872	73

The table shows that among all the babies dying under one month, nearly three-quarters die of causes operative at or before birth, and eleven of the states included in the above summary assign these as the causes of the deaths of from 75 per cent to 83 per cent of all cases. The causes selected were: malformations, congenital debility, premature birth, and injuries at birth. A comparison of the number of infant deaths from prenatal causes with a crudely estimated number of births show that in 1910 for every 1,000 babies born, ten died in the first day of life; twenty-two in the first week, and twenty-nine in the first month, from these prenatal causes.

Another cause of infant deaths and an important cause of foetal deaths which is now said to be amenable to prenatal care, is syphilis. The mortality from this disease among young babies is as follows:

SYPHILIS

(Report on Mortality Statistics, Bureau of the Census)

Deaths of infants under

	1 year	1 day	1 week	1 month
1910	1,658	90	228	608
1911	1,787	102	256	696
1912	1,724	98	244	640

In conclusion, I may say this: One of the reasons which especially justifies the necessary expenditure for giving prenatal care is that, in studying the problems of the mother, we get closer to the fundamental causes of suffering than in almost any other way. In the life of the mother and baby, all the factors, which we are accustomed to refer to glibly, but more or less vaguely, as "economic conditions," are brought to a focus, as it were, and at that focus there is no vagueness, no lack of clear outlines. There poverty presses hardest. There bad houses, dark rooms, wet cellars, lack of ventilation, foul drainage or none, dirty streets, poor food, lack of good milk, lack of employment, drunkenness, wife desertion, and all the rest of the dismal crew, work their worst harm. It is always the mother in the home who finally bears the brunt of the world's suffering. If she is relieved, the children and husband are relieved, the home becomes a better place, and the standard of community life advances.

The problem is before us. If I may be permitted, I will say, as a member of this Association committed to the work of preventing infant mortality, it is indeed before *us*. Probably 50,000 babies die each year in the United States from prenatal causes, many of which are preventable. Now, what shall we do with this problem? Speaking wholly in my personal capacity, I am glad to see the Association taking a decided position on the matter at this meeting. I should be glad to see us turning what force and machinery we have upon a study of the best way to deal adequately with the problem thus presented to us, for I confidently believe that it is the most fundamental, the most beneficent, the most immediate in its results of all forms of infant welfare work and the one which pays the highest returns upon the investment.

DISCUSSION

Mrs. William Lowell Putnam, Boston: While a nurse cannot, of course, take medical care upon herself, at the same time there is a very great field for nurses, it seems to me, particularly in prenatal care; the nurse should bear the relation to the physician that the clerk bears to the business man. It should not be necessary for an obstetrician to visit a pregnant woman when everything is going right but when things are going wrong it is very important that he should be called in. Any good nurse should be able to detect the signs of illness and if she does this work properly it seems to me it will aid in three ways to benefit the community: it will help the doctors because they will be called in to cases a great deal oftener

yet at the same time serious complications will be avoided; it will help the patients because it will ward off these complications and it will give work to a great many nurses.

Mrs. West has dwelt upon the standard for prenatal nursing. The nurse should instruct the patient as to diet, clothing, exercise, fresh air, the regularity of the bowels, she should test the urine; and my committee has made a rather interesting investigation in blood pressure. I do not believe that the blood pressure should usually be taken by the nurse, however, for one reason because the machine is too expensive. Any one who wishes to see the results of the 450 cases whose blood pressure we took every ten days, will find the tables in the exhibit at the public library, and also specimens of the charts showing the blood pressure in graphic form. The tables are arranged according to the age of the mother, the pregnancy of the mother (first, second, etc.), the nationality of the mother, the feeding of the infants and the height of the blood pressure.

Prenatal care is not a difficult thing to give; it can be given by any registered nurse, because there is nothing peculiar about it; it requires common sense more than any other quality. Of course the better the nurse and the more exceptional she is, the better care she will give, but the training that is given to the ordinary nurse, plus the human quality, is what is required. A very short time spent in paying the prenatal visits with a nurse who has already done this work is quite sufficient for any good nurse, at least that has been my experience in five years of work. I am not going to give our statistics here, for Dr. Emmons has just given them to you, but as you see they are very gratifying.

Now as to how we get at our patients. We began first by getting the house patients of the Boston Lying-In Hospital, because the hospital was not at that time giving any prenatal care to its patients; we took care of these for two years, until the hospital established its own clinic in 1911. This plan can often be carried out with hospitals and it is a very good way in which to begin, because it starts the idea in the hospital itself beside giving to its patients the nursing care. But there are a good many other ways in which patients may be obtained. It seems to me that one of the most fruitful ways and one in which I am personally much interested is through the Federated Women's Clubs. There are enormous numbers of women belonging to these clubs now and it certainly is a woman's job to take care of herself and her child; consequently these clubs are admirably adapted to take up this work. I believe if the women's clubs throughout the country could be

roused to the need of proper prenatal and obstetrical care, the battle would be won, and I think it should not be a difficult thing to do.

It is very important to get the patients to register as early as possible in their pregnancy, as Mrs. West has said. Our experience has been like that of every one else; the average time they have been under our care has been two or three months, but if I may refer once more to the exhibit at the Public Library, you will see there what we call our prize baby with the mother's record above him. When she was pregnant the first time she came to us within two or three months of the time at which she expected to be confined; she had a contracted pelvis and the child had to be delivered by a high forceps delivery and the baby died within a week, leaving the mother pretty nearly broken hearted. When the second baby started, indeed within a week of the time she suspected that she was pregnant she sent for the nurse who happened to be the same one she had had before and in whom she felt she had a friend. She was thus under our care during the full term—everything could therefore be carefully arranged and planned for. The child was delivered at the Boston Lying-In Hospital by a Caesarean operation, and weighed 7 pounds 6 ounces and you will see by its picture when nineteen months old that it is a good specimen of babyhood. I thought that surely she had learned her lesson, but she had fared so well with this second baby that she thought her troubles at an end, and consequently followed a neighbor's advice not to apply at the hospital until she was six months' pregnant with the result that she miscarried at five months. This case is a very striking example of the value of prenatal care.

There is one thing brought out by Dr. Emmons which I too wish to emphasize, and that is the importance of the father in the whole problem, because we have very much neglected the father, and until the father can be reached (and the only person whom I know who has really done much toward this end is Miss Strong at the South End House), we cannot succeed, because the father can not only help the mother enormously but he can nullify almost everything the mother wants done if he chooses to. I think we are very apt to forget that children belong to their fathers quite as much as to their mothers, and I think another thing which we are apt to forget is that the fathers care for the children quite as much as the mothers; we have a way of talking of the "mother and baby," and the father is very much left out in the whole calculation; this we cannot afford to do if we wish to rear a healthy gene-

ration. There would not be I think all the gamut of horrors that come to women under these circumstances if we made more effort to reach the fathers. I believe that is a thing we must take up very vigorously.

Dr. Emmons has outlined the work in prenatal and obstetrical care—the reason we dwell on prenatal care is because it has not hitherto been felt to be of as much importance as care at childbirth—but one cannot go on without the other. As you all know there is an enormous amount of loss of life from perfectly preventable causes both during pregnancy and at confinement. Through the education of the parents much of this could be prevented and this education is a thing which should be given. That there are so many injuries and deaths still occurring before and during childbirth is a disgrace to the Twentieth Century. Much of the trouble is caused by ignorant midwives, and midwives can never be anything but ignorant, for were they adequately trained they would of necessity cease to be midwives, because the only proper training for the management of childbirth is the most thorough medical training possible. The trouble is caused by ignorant midwives, and almost equally ignorant physicians, and behind it all and permitting it all are the parents themselves, who have been taught that pain and suffering are the lot of women, till they quite forget that this pain should be followed by joy, the joy that a man is born into the world. The message we want to bring is a message of joy, and when it is understood by women there will be no more carelessness about the great function of childbearing, because such carelessness will no longer be tolerated.

Dr. S. Josephine Baker, New York: I think that Dr. Emmons and Mrs. West have covered this subject so completely that the action for this Association to take is direct action, that is, carrying out the plans which they have so well outlined.

I think we are convinced as to the need of prenatal instruction when we realize that one-third of all babies under one year of age die in the first month, and about seventy per cent of these die in the first week of life. We realize that any kind of postnatal work can bear no near relation to the reduction of infant mortality from such causes and so early in life.

In New York City we have attempted to meet this problem of the reduction of the baby death rate. In 1907 the deaths under one year were 144 per 1,000 births. In 1913 they were 101 per 1,000 births and, so far this year, our rate is about 95. An analysis of our statistics shows that this reduction has taken

place almost entirely in that class of cases known as "diarrheal diseases," and dependent in some particular upon dietetic errors. We have had practically no reduction at all in the death rate in that class of cases known as "congenital," which are dependent largely upon the health of the mother before the child is born.

We have been attempting in a small way to carry out some prenatal work and our results have duplicated rather closely those reached in Boston. We have had approximately 500 mothers under observation, with no maternal deaths. Ninety-six per cent of the babies born are living now. The deaths under one month per 1,000 births were 16, as compared with 37 for the city, a reduction of about one-half. The stillbirths in these cases were 17 per 1,000 births as compared with 50 for the city at large—not much more than one-third. It is too early to report positively upon the progress of this work, but I feel that from our experience, we have reason to believe that continued work of this nature will definitely lower the infant death rate.

In thinking over some of the things that have been said today about this problem, I have been much impressed by one or two particular suggestions. First, the idea of some form of maternal insurance. This is a suggestion which we have made in New York City for several years, but with small success. I believe it is entirely practicable. I see no reason whatever why insurance companies should not take up the matter. The second suggestion is that of a mandatory law for the prevention of women working a month before and a month after labor. Practically all Europe has some mandatory laws preventing mothers working either immediately before or immediately after labor, or both, but to the best of my recollection, there is only one country that pays any premium to mothers during this time, consequently these laws are, in many instances, very carelessly enforced. In this country, so far as I know, there is no law which provides for the payment of a premium to a mother during this period.

When we realize that the cause of death in these babies in many instances is due to conditions in the mother which depend upon lack of nourishment, family poverty or the inevitable conditions which result from lack of a living wage, it would seem that some provision should be made for this period, and when we further realize that overstrain and hard work up to the time of birth may injure the mother and therefore the child, and that the early return to work after labor usually means artificial feeding of the baby, then it seems to me that

some steps should be taken to render such conditions impossible. It is almost farcical to pass laws that women cannot work a month before or a month after labor, when such prohibition may mean starvation for themselves and their children, therefore, unless we can provide some sort of payment for the mother during this period, I think our laws are quite useless. The third point is that of standardization, and the necessity of obtaining needed cooperation. In New York City we use the infants' milk stations as centers. Here the women are registered and they are visited by the nurse every ten days before confinement and every day for ten days afterwards, when they are referred back to the milk station for observation.

I know our old friend—the midwife—is not highly thought of, but it is interesting to know that, of the women under our control in this prenatal work, sixty-five per cent have been delivered by midwives, and these have, almost entirely, been referred to us by midwives for the purpose of prenatal care. Of this number we have had no deaths, no cases of ophthalmia neonatorum or eclampsia. The midwives have not only been quite willing to cooperate but they have welcomed our assistance. All of this has brought about two excellent results. First, we have secured the class of cases which we most desire—those of the midwives—and, second, we have had cooperation with and an opportunity to instruct the midwives themselves. This double role, I believe, has been particularly valuable.

Last of all, I want to say a word about the kind of problem we are facing. It is, perhaps, natural for us to consider that this is a medical problem, and I think a good many of the papers this afternoon have accentuated this feature. I wish to lay emphasis on the fact that the reduction of infant mortality is, in a larger sense, a social problem. We must, of course, reach the fathers, not only because of their immediate love for their children but also because the fathers are the wage-earners of the family. In a large number of instances it is the man who must take the responsibility for the conditions under which the family lives, and these conditions are often those which influence the infant mortality rate. Therefore, in helping the father in the right way we are also helping the family; the higher the level upon which we can place these people in relation to their social surroundings, the farther we can remove them from the line of poverty and the line of ignorance, the better off we shall be in our efforts to keep down the death rate from the so-called "congenital" causes.

COMMITTEE REPORT ON NURSING AND SOCIAL WORK

MISS ALICE M. CHENEY, Boston, Secretary

Questionnaires were sent wherever a society could be found that was doing work with babies and small children in their homes—such as district nursing associations, health departments, baby welfare stations, hospitals, settlements and other agencies of a similar nature. In all there were 280 questionnaires sent out and 128 replies received representing 28 states, 104 cities and towns, and 1 Canadian province.

From these questionnaires we learn that out of the 104 cities and towns 71 have organized consultations or conferences for well babies, 1 has organized conferences during summer months, 3 have mothers clubs with home visiting by nurses; of the 71 conferences 70 have home visiting. The majority of these conferences receive babies up to 2 years, 9 receive them up to school age, and 8 have no age limit. Physicians generally approve of these conferences.

To the question, Are there kindergartens in your city under the department of education? and if so, are these kindergarten children under the care of the school nurses?—we find that out of 80 public kindergartens, in 53 the children are under the care of the school nurse, in 6 they are not, and in 19 there is no nurse. As we expected, very few cities have special conferences for the children between baby conference age and school age. In New York City the Child Hygiene Bureau (Department of Health), the Society for Improving the Condition of the Poor and one hospital social service report they are partially covering this field. At the South End House in Boston a Senior Babies' Club has been started for children from one and a half years to kindergarten age.

Out of 128 replies 106 declare that there is a decided need for some provision for the children between baby conference age and school age and many are anxiously awaiting suggestions. Six want special clinics for older children; 18 would secure same result by extending baby conference to school age; 9 advocate extending the work of the school nurse over the kindergarten, and 1 of these joins with 3 others in desiring the establishment of a health centre in the school. Seven are strongly in favor of making the family the health unit for the nurse, thus covering all ages, and 1 of these suggests that this nurse be the school nurse.

NURSING AND SOCIAL WORK

ROUND TABLE

Friday, November 13, 1914, 4.30 P. M.

MISS ALICE HALL, Providence, R. I., Chairman

Miss Hall: We are to have an informal discussion on nursing and social work. We will begin with the questions that trouble us most. What agencies in your city, if any, care for children between baby conference age and school age? Do you recognize a need for the provision of some care for children between baby conference age and school age? If so, how do you feel this gap can best be filled? If it has been bridged over, what has been done to bridge it over? I will call on Miss Ahrens, and she will tell us just what they are doing in Chicago.

Miss Minnie H. Ahrens, Chicago: When this questionnaire was first sent to me I said that we did nothing and we felt the need of it; I am glad this afternoon to be able to say that we have tried it out. We do something, along this line although we feel that it is still in an experimental stage. We have in Chicago a Woman's City Club which is a very live organization and interested in all civic and health problems. In this organization there is a committee known as the Child Welfare Committee. They are anxious to do something for the child from two to six years of age and they have asked us to cooperate with them or they with us and between us we prepared an outline of the subjects that should be covered in the classes with mothers. These classes were first opened about the middle of October. They are held once in two weeks at the Infant Welfare stations. It is our aim as the work goes on to graduate the baby when it is two years old, and the mother with these babies, to these classes. At the present time this class is made up of mothers from districts where the nurses go into the homes and therefore know of children of that age. The outline covers the question of food, the kind and preparation of food, the importance of regularity of feeding, the right kind of clothing, teaching the mothers how to make this clothing. There is another class on the question of contagious diseases and I think this probably has been as acceptable as any to the nurses who are working in the homes

of the young baby and the child, because so many of the mothers in our districts, as many of you who are doing baby health work know, feel that they are really very much abused when the nurse sees that quarantine is enforced in the home. We are being able to teach the mother the importance of this, and something of the symptoms of contagious diseases, which is going to be very valuable. We also have another class in the value of play for the child. Here we teach the mother the importance of play and also take up the question of the kind of play for the different ages. This is being given by a kindergarten teacher. While this teaching is being voluntarily given, it is given by trained people. I can hardly say at this point what our results are going to be or just how well it is going to be accepted by the mothers. Up to the present time the nurses feel that the mothers are more than glad for this work and they are interested and are trying to follow out the instruction given in the home. Incidentally, the mothers take in other ideas, at these classes. At one of the classes a few weeks ago, a physician was giving instruction as to contagious diseases and symptoms and the importance of quarantine. She said she felt in order to hold these mothers' interest she must have something in the way of refreshment, some social feature, and so she brought with her several dozen cookies which she had had made in her home. She had kept an exact account of the cost of the ingredients so she could tell the mothers. She also brought the recipe for the cookies. So each mother went home with the recipe and the knowledge that it would cost about seventeen cents, I think, to make four dozen cookies. They were oatmeal cookies; and on the next visit the nurse said she found a good many of the mothers making oatmeal cookies and telling just what they cost. The next time the doctor was planning to bring vegetable soup with recipe and cost. This physician has also secured a kindergarten student, one in training, to come with her in the afternoon when she is hearing her classes, to entertain the older children. The mothers of course must bring the children with them and all of you know how confusing it is when the children are brought into any class. We have started four of these classes.

I am sure we all agree that the child between two and six is the one that is being given the least attention just now. We have no right to think when the child is two years old that it can be left without further care. One of our nurses found a child of that age eating sausages and bananas. I should be exceedingly glad for suggestions from anyone else in regard to this line of work.

Miss Barrows, Boston: We have been trying to solve the problem at the South End House in regard to the care of children between the ages of one and four. Of course we are all convinced that that is necessary, but how it should be approached is a very interesting question. We have endeavored to make our settlements little health centres in the communities of which they are a part. We have worked for a long while on prenatal work and on our milk station of which we are very proud as part of the Milk and Baby Hygiene Association. For the last two years we have been taking these babies as they graduated and forming them into what we call a Senior Baby Club or our Good Government Baby Club. We like to have the babies the centre of attraction. When we had a new worker this year she came in and arranged the chairs for one of our meetings so that the mothers' chairs were in the middle, and the babies were on the outside, as a sort of a fringe surrounding the mothers' chairs. Before the meeting this was quickly changed, because of the psychological effect, desiring to have the babies always in the centre. We want to keep in the mind of the mother that when the baby is over a year old it does not really cease to be the centre of attraction and love and care, even if another one by that time has appeared, and is needing the more definite attention. We feel strongly that the personal care and attention and love that is put in through all that period is appreciated very much by the mothers.

The Baby Good Government Club has certain rules. It has a baby for president, the mother of course acting the part, and it has a baby for secretary, the mother keeping the book very, very carefully. When anything is referred to it is always done in the name of the baby. In this way—"of course the president would not expect any baby belonging to his club to do thus and so." In this way it is possible to say all kinds of things to the mothers, which would probably be resented if they were expressed differently. Once a month the doctor in charge of the station, comes to our Good Government Club, and talks to the babies, about what they must not let their mothers do; he has the idea too! So you see what we are trying to do is to keep the baby very much in the limelight up to the time it goes to school. Our experience in settlement work has been that the child between the ages of one and four has less attention than when younger or older. When a child commences to go to school and the mother has to get it up and dress it, and have it ready to start with other children, the child at once becomes a real factor in the home and community and in the

mind of the mother. To fill in the gap has been our problem. We have tried to meet it, how successfully we do not know. We think we are on the right road. We are fortunate in having a resident nurse, Miss Strong, who has lived with us many years, and who has the entire confidence of the mothers. We had eighty mothers at our club the other day; the babies behaved very well, and the mothers went home with the idea that the babies were not going to stand anything out of the way from them. I also shall be very glad of any suggestions.

The Chairman: We would like to hear from Miss Beard, Superintendent of the Visiting Nurses' Association in Boston, as to just how much a district nurse can do of this kind of work.

Miss Mary Beard, Boston: The answers to the questionnaire indicate how difficult it was to make the people understand what we meant. What we were trying to find out was whether the children in any of the States to which the questionnaire went, were having any sort of supervision, after they reached a year of age and were discharged from the care of the baby welfare nurse. Forty-one out of 128 frankly said that no provision was made for children between baby conference age and school age; nine did not answer the question at all, five said they had day nurseries that covered the work. Of course in a certain sense this is true of the day nurseries. They take care of a very few babies that attend; but the community problem is not reached in the same sense in which it is met by a public welfare association that districts the whole city with clinics for well babies. Providence is one of the few cities in which the public welfare nurses are following, caring for and instructing the mothers of these children. With many of the public welfare associations and with the visiting nurses associations lack of money makes this extension impossible, and I think this is indicated by the answers to our questionnaire. Now as to the sort of thing the visiting nurses associations are able to do: Of course we take care of the children beyond the age of one year or two years in the families we visit, but I think most of us feel very strongly that we are not able to do all that we know ought to be done. We are trying more and more to learn how to do preventive work. We are being taught more and more how to observe and give more time to the children when we go to nurse some other member of the family, but I think almost any visiting nurses' association would be obliged to deny that we have actually arrived at a time where we have either money or leisure to stay in any

family long enough really to know all of the children and to keep track of the young children as effectively as the baby welfare babies are cared for. We are quite sure we all want to see something done, as we all know this is a neglected field.

Miss Foster: New York seems to be doing something. May we have something from there on the subject?

The Chairman: Is Miss Daniels here?

Miss Maria L. Daniels, New York: I represent the Diet Kitchen Association, and its name is rather confusing, because that was the original work, but we are now including medical and milk stations. This extension of our work to which reference has been made—caring for the child after it is two years of age—is interesting because it has been thrust upon us; we could not let the babies go, though some of us have had to let some of ours go, because they have been pushed out by the great number of younger children crowding in. In connection with our work, we have started in with one milk station and we have many more young children right in that one conference than we can handle, because the mothers are so eager for instruction along definite lines, how to feed, to take care of their babies and correct some of the difficulties. Next month we start a second conference for the older children. In the new station we expect to be able to look after the child from the time it is first brought to us, two or three weeks old, until it enters school.

Mr. Gordon, Fall River: It seems to me if the children are started right from the time of birth, unless they develop abnormally, the nurse ought not to be obliged to take care of them. The child goes to the hospital with some disease that needs to be remedied. It has now become the duty of the hospital, through its social service department, to follow the child until its health is fully restored. After that it seems to me we ought to keep the children from getting sick rather than to attempt to cure them after they become sick; and the thing to do is to teach the families the way in which to rear their children. For that reason, as an adjunct to the district nursing society we have started a settlement house where we hope by precept and example to teach care for the entire household, including not only the children but the father. Instruction is given in cooking and housekeeping and amusements and gradually we hope that the people will teach themselves how to keep well.

Dr. Ellen A. Stone, Providence: We find in school children difficulties for which the mother might not take the child to

the family physician. It would be an advantage if we could have some sort of health centre, or consultation for children between baby conference age and the beginning of the school nursing (that is the age of two to four and a half), with doctors in attendance, to make a routine examination of the children perhaps once a month. We might then get some of the things remedied before the kindergarten age.

Mrs. Montgomery, Manchester, N. H.: I would like to ask Mrs. West, of the Federal Children's Bureau, if she can tell us what is being done for the neglected children of the rich.

Mrs. Max West, Washington: I am sorry to say I cannot answer that, but I wish to say that in distributing our pamphlet on prenatal care it has seemed to me, judging by the standard of the handwriting, the crests at the top of the note paper, that we have had almost as many requests from the rich as from the poor, and it has struck me as pathetic, because people who are supposed to have everything, still are writing for our pamphlet because they do not know how else to get the desired information. While on my feet I want to add that the Children's Bureau series of publications contemplates covering the whole period of child's life, first prenatal, then infant care, then taking the child through the second year, then taking the child from three to six, then taking school care, and then adolescent care. The first bulletin, "Prenatal Care," is in print, as you know, and "Infant Care" will be ready for circulation this fall. These two bulletins are intended for you all. I wish to say this most emphatically and if you see any way in which these bulletins could be made more practical to your problems or of more value in any way, we would most heartily welcome your criticism or suggestions. It is our desire to render the highest possible efficiency in our service and to reach the greatest number of people. Please do not hesitate to call upon us most freely, we are not a Government bureau with which you need feel any reserve; we are men and women and wish especially to serve those who want what we can give.

Miss A. M. Carr, Boston: I want to pay a tribute to the Children's Bureau. Some of us started out with the feeling that it was a difficult thing to get in contact with this bureau and I want to say that the courtesy and promptness and usefulness of the Children's Bureau has been very definitely proved here in Boston. The District Nurses' Association here has two courses in preparation for baby health nursing. I began by asking very cautiously for publications of the Children's Bureau. They were so prompt and courteous in sending

anything for which we asked that we have no longer any hesitation in asking for a copy of each publication for each of the students who come from all over the country. I would like to bear testimony from the students who have been with us the last year as to the extreme usefulness of these publications. Each student goes away with a copy, thus making themselves centres for the distribution of these publications in their own homes. We have had some interesting discussions recently in Boston on the possibility of having a more centralized system of district nursing, with the nurses taking care of the families in small units which would be practically health centres; they thus know the families, follow them up through illness, and in these small units it is possible for them to know the families well enough so that they may become preventive forces, not merely curative agents. I think Miss Beard is very much better able to say all this. In Philadelphia Miss McKenzie has made a very good start. She is the nurse in a small unit where she has been working with considerable success. She started by getting the mothers interested, and gradually got hold of the whole family. I think perhaps I am getting converted to the fact that the existing visiting nurses' associations are missing a big opportunity in not doing a more generalized form of district nursing.

Miss Beard: I have recently heard from a nurse who is working in a town where there are many nurses who go into the homes. She said she was in great despair one day, and she was trying to teach the mother something which she needed to know, the mother was very friendly and listened patiently, but looked almost as if she were going to cry and finally said, "I cannot understand, too many nurses, they tell me what to do; there is the nurse of the legs," just what that meant I don't know; "there is the nurse of the lungs who comes in, and there is the nurse of the milk, and now you are telling me and I cannot understand all of those things!" Which shows that it is desirable to consider the question from the point of view of the patient. If the mother of my family had a serious stomach trouble I would want to have her first go to a general doctor rather than a specialist, because one who thinks about stomachs all the time is generally apt to forget some of the other things; afterwards it might be necessary for the general doctor to have a specialist, but I feel there are very strong arguments on both sides and that it is necessary to protect the family from this present arrangement in many cities and towns. If this method of dealing with sick people

were known to those who contribute the funds there would be no support in these towns. I think both sides should be strongly emphasized, the protection to the family and the utilization of the tremendous forces there are in the individual nurse who becomes a real friend in any given family.

The Chairman: Miss Beard has given us something to think about until the next conference.

I would like to hear what Minnesota is doing or not doing.

Miss E. Heikkila, Duluth: We have practically no slums in Duluth, and our county is willing to furnish classes and our State takes care of the cripples and deformed children. Our clinics never refuse assistance, and although we have made it a practice of taking none of the children who are over three years of age, in poor families we will take them even when they are over that age. We have not the conditions that you have here, the infant mortality is not very high, the percentage is very good, as is shown by the fact that out of a population of 93,000 the rate was 120 per thousand births in 1910; this last year it was 95 per thousand births and the districts in which the nurses are working it was only 84 per thousand. We do not have to worry about funds in Duluth, it is our desire to get ideas and work them up.

The Chairman: Some people have the ideas and have not the funds! I think I will do what I said this morning; appeal to the Masons, as that is the only Order who has enough to give to support the work.

Miss Beard: I wish Miss Hall would tell us about work of the Visiting Nurse Association in Providence, the central office, their meetings in the morning, and so forth. Their plan is interesting and stimulating.

The Chairman: The Providence District Nursing Association employs eight baby welfare nurses, one of them acting as supervisor. The city is divided into seven districts and has a nurse caring for each district. There are five baby welfare conferences. They are held once a week and are attended by the nurse in that district.

The office of the Providence District Nursing Association is centrally located and is in the same building with the Society for Organizing Charity, which helps the charity visitors, as well as the nurses. The nurses report at the office every morning, giving a detailed account of the previous day's work to the supervising nurse. One meeting a week is held at which all the nurses of the Association are present, also the nurses em-

ployed by the Health Department. The out of town nurses are always welcome at these meetings.

The close cooperation we receive from the Health Department is a great help. Should one of the Health Department nurses see or hear of a sick baby, she reports it to us. We often see sick children of school age, or children with contagious diseases, which we report to the Health Department for the school nurse or the nurse doing contagious work.

All cases discharged from the wards of the Lying-In Hospital are investigated by the baby welfare nurses. All infants discharged from the wards of the Rhode Island Hospital, one of the general hospitals, are also followed up.

Since June, we have been doing prenatal work. About sixty per cent of these cases are reported to us by the Lying-In Hospital, twenty per cent by doctors and twenty per cent by midwives and other sources. The milk stations have been tried in Providence. There was no nurse in attendance. We did not find them to prove satisfactory.

Mr. Gordon, Fall River: As near as I could get at it a nurse cannot make more than eight or nine visits a day. I have studied the reports from various sections of the country and that seems to be about the average number.

Miss Schatz: It is dependent upon the character of the cases, the district to cover and the facilities for getting around. I think a nurse doing prenatal work in the summer in a congested district makes many more visits, while in a large district she would only make perhaps eight visits.

The Chairman: A nurse might make only three or four visits and yet talk with twenty people on the street. I do not know how we could accurately sum up the district nurse's day's work.

Dr. Burnett, have you anything to say?

Dr. H. W. Burnett, Providence: Mrs. West has said something about the Children's Bureau not having the power to carry the things out. We do not always need legal power and we must not get discouraged if we do not get it. Education coming from the proper sources, and properly carried out is worth a great deal more than legislation. We do not get the laws until we get education, and we do get laws which are well characterized by the term "wild-cat." One of the greatest educational factors in our urban communities is the education which comes from the district nurse. The district nurse, at least in our city, is a great nurse! We get many applications

from people who are anxious to work, we first ask if they are graduates of a regular hospital training school and if they say no, they are immediately turned down and not considered any further. We have a public welfare committee composed of a number of agencies which are supporting these conferences and educational centres for mothers and well babies. They are termed "consultations for babies." At each of these consultations each week there is one or more of Miss Hall's force present. There again you see the power of the education or the people. I have found in my experience if you will only let the people know what they ought to do or have the power to make them do it they will be very glad, in fact become anxious in a short time to do it. I found that very well exemplified in our summer military camp, not only in our own State but other States as well. The camp is not sanitary for the first twenty-four hours; the medical officer goes around and makes them realize what is required and at the end of a week things are as spick and span as one could possibly want. Every man has lent himself to have that camp the way it is desirable to have it. And it is the same way with people. If we let them know that we want them to observe certain things in connection with prenatal work they are very anxious to do it and it is the same with our work among the children. A few years ago they thought that some supreme power somewhere, somehow, was looking after the milk supplies, they did not see why they should pay ten or twelve cents a quart for milk when they could get plenty of milk for six cents. But now they realize that the milk at six cents comes from many, many farms and not only that but that it is full of bacteria and consequently dangerous. I believe the district nurse in our city and I think in other cities has had a great deal to do in education along the lines of prevention of infant mortality and that this would not have occurred without her splendid work.

Miss Jones, Boston: Fifteen years ago we rarely found a mother who was ready to carry out even the directions of the doctors. Three years ago I was surprised to find how much more ready they were to follow the orders given. We have reached this point by specialization and we are going back 15 years if we do not continue it. I do not mean fine specialization but I believe we should keep the children up to kindergarten age and then they could well be turned over to the school nurse. We have reached our best by going hand in hand with the medical profession.

SESSION ON PEDIATRICS AND SOCIAL STATISTICS

Thursday, November 12, 1914, 4 P. M.

(JOINT SESSION)

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ARE INSTITUTIONS FOR INFANTS NECESSARY?

HENRY DWIGHT CHAPIN, M. D., New York City

In considering the best conditions for the relief of acutely sick infants and for foundlings or abandoned babies two important factors must always be kept in mind—1st, the unusual susceptibility of the infant to its immediate environment, and 2nd, its great need of individual care. The best conditions for the infant thus require a home and a mother. The further we get away from these vital necessities of beginning life, the greater will be our failure to get adequate results in trying to help the needy infant. Strange to say these important conditions have often been overlooked, or, at least, not sufficiently emphasized, by those who are working in this field.

The subject naturally divides itself into two branches—the treatment of the acutely sick infant in a hospital, and the care of the foundling or abandoned infant in an asylum.

We will first consider the hospital. An important point to emphasize is that the stay of an infant in a hospital should be as short as possible. The reasons for this are obvious to those who have had much experience along this line. Unless the infant is quickly discharged after the acute symptoms have subsided, there is nearly always a slow but progressive loss of weight which bears an inverse ratio to the age, being especially marked under six months. If this atrophy gets beyond a certain point no change of environment or food will save the patient.

Another danger consists in the spread of specific infections, such as diphtheria, pertussis and the exanthemata. A child may be admitted in the late incubation period, and, if so, is apt to involve many others. These infections may also be brought by mothers or other visitors, acting as carriers. It is now considered that these diseases are spread by contact rather than by aerial transmission, hence the nurses and the children themselves may spread the poison from one to another. When any one of these diseases gets a foot-hold in an institution it is hard to stamp out the trouble without discharging all the patients in the affected ward, cleaning up the place and starting fresh with new cases. Otherwise, one case after another will gradually succumb by an exposure from others who may be in the period of late incubation or early invasion. Measles and pertussis are particularly to be mentioned in this connection. Young children with nasal catarrh, enlarged tonsils

or adenoids may harbor diphtheria bacilli that remain latent, which accounts for their being attacked without apparent hetero-infection, or, if not succumbing themselves, spreading the disease to others.

Perhaps the greatest danger in keeping sick infants long together comes from the ordinary ward infections. The mucus membranes usually bear the brunt of these infections. We may thus have rhinitis, pharyngitis, tonsillitis, otitis media, bronchitis, broncho-pneumonia and vaginitis. The latter is nearly always specific. It is generally the infants who have been longest in the hospital who succumb to these cross infections. The pneumococcus and streptococcus seem to cause most of the trouble, although, in certain seasons, the influenza bacillus is also very active. Hospital babies show a very poor resistance to added infections; their immunizing power against bacteria and other infections seems to be largely lost after a certain length of time in an institution. The infants must thus be discharged at just the right time when the acute symptoms have subsided and before the cachexia of hospitalism has had time to develop. In a word, in order to insure a good convalescence the infant must be kept in a hospital for only a short time; it must be carefully guarded from auto- and hetero- infection while there, and, finally, sent out to recuperate under as favorable conditions as possible. It is not believed by the writer that the multiplication of infant's hospitals through the country should be encouraged. When infants need hospital care it had better be in small units. The dangers of cross infection must be guarded against by the most skilful nursing as well as by working in small units. There should be one good nurse to three or four sick infants so that there may be a chance to effectually apply the principles of aseptic nursing. Particularly at night, the nursing is too often ineffective from not having enough nurses in attendance. Large wards and large institutions are undesirable as far as the infant is concerned. Atrophic infants with chronic indigestion and malassimilation should never be treated in a hospital. A baby with marasmus will rarely live long in an institution. It is interesting, in this connection, to glance at the recent action of the Massachusetts Infant Asylum. This institution had developed two rather distinct branches of work—1st, the care of sick babies in its hospital at Jamaica Plain; 2nd, the placing of well babies at board in private families under the supervision of trained nurses. Later, a department for looking after unmarried mothers and a wet nurses' directory were added. As it seemed wise to revise this wide field of service,

the hospital was discontinued and an arrangement made with the Boston Dispensary by which a certain number of beds were retained for babies who might need hospital care before going to board or such as become sick while at board. The hospital feature of the work is thus reduced to a small unit and the boarding out system emphasized and enlarged. This is a step in the right direction. That more can be accomplished with sick infants by home treatment than has ordinarily been supposed, even in severe cases, provided proper nursing can be furnished is shown by the following figures, which have been furnished me by the Henry Street Settlement, New York:

PNEUMONIA

Birth to 2 years	1910	1911	1912	1913
Cured	986	1,251	1,423	1,596
Died	114	181	177	206
	<u>1,100</u>	<u>1,432</u>	<u>1,600</u>	<u>1,802</u>

DIARRHEAL DISEASES

Birth to 2 years	1910	1911	1912	1913
Cured	249	339	263	273
Died	30	40	27	25
	<u>279</u>	<u>379</u>	<u>290</u>	<u>298</u>

As these figures run through a series of years, they should form a fair general average, and it is doubtful if any hospital can furnish as good results. They were all cared for at home and attended by their own physicians, but skilfully and carefully nursed by the trained nurses from the Settlement. If necessary, several visits a day were made until convalescence was fully established.

When home attention is impossible and the hospital care required, the best results will be obtained by an early discharge with a proper "follow-up" system by a competent nurse. In this way the best and most permanent results will be obtained.

The next aspect of this question concerns the care of foundlings or abandoned infants in institutions. There is a sharp distinction to be made between hospital care for the acutely sick infant who cannot get proper home treatment, and the ordinary infant asylum. Both have high death rates, but the latter starts and deals with a well, or comparatively well baby, who gets sick or loses vitality during its stay in an institution. This makes a very radical difference. The writer believes the plan of collecting babies in institutions should be abandoned,

as, on the whole, doing more harm than good. Not only is the mortality under this system very high but the surviving infants are rarely strong and healthy. In spite of good intentions and care in management, too often these institutions produce or aggravate the very conditions they are supposed to prevent. The danger of institutional care to infants is in inverse proportion to their age, being very great under one year and diminishing as the children grow older. This experience is worldwide, and it seems strange that more energetic steps have not been insisted upon, especially by the medical profession, in the line of abandoning these old and futile methods. It is fair to state, however, that some of these institutions are waking up to different plans of action. In a historical sketch of the Foundling Hospital of London, it is stated that in 1756 a basket was hung at the gate in which children were deposited after ringing a bell. It is naively added that of 14,934 children received during three years and ten months, no less than 10,389 perished in early infancy. It is interesting to note, by contrast, that the infants on reception are now placed out to nurse with cottagers in the Kent or Surrey districts under the superintendence of medical officers and are returned to the hospital about the age of five. During 1910, 48 infants were received, of whom only two died under one year, and one under two years after being boarded out in the country. (Report of Foundling Hospital, London, 1910.)

In a personal letter from the General Secretary of Dr. Bernardo's Homes, the largest charity in England dealing with infants, the following statement is made: "Years ago we established a large institution especially for babies, called our Babies' Castle. Accommodation was provided for 100 babies. The place was beautifully designed and perfected in every detail, but we found that the babies did not thrive and eventually we had to board them out and use the institution in question for those who were a little older. Our experience leads us to the conclusion that a large segregation of babies under one roof is fatal to their well-being and health, however carefully and well they may be looked after. We do not hesitate to say that, if a certain number of babies were first of all to be boarded out under good conditions, and then segregated under one roof, it would be found that the death rate would be quadrupled in a year or two."

In a minority report of the British Royal Commission on Poor Laws, 1909, it is stated that the mortality among infants in the Poor Law Institutions is between two and three times greater than that found in the general population. "Out of

every 1,000 babies born in the population at large, 25 die within a week and 132 are dead by the end of the first year. For every 1,000 children born in the Poor Law Institutions, 40 to 45 die within a week, and, assuming the mortality among those who are discharged to be the same as those remaining, no fewer than 268 or 392 will be found to have died by the end of the year, the number varying according to whether we take the experience of the Poor Law Institutions for legitimate or for illegitimates in the metropolis, or elsewhere. The excess of infantile mortality in the Poor Law Institutions is actually greater at the ages between one and six months, than during the first month of life. It may well be that human infants, like chickens, cannot long be aggregated together, even in the most carefully devised surroundings, without being injuriously affected."

The facts learned by many years of observation and experience on this problem do not seem to be sufficiently appreciated by many in this country. If so, the large asylums and institutions for the care of foundlings and abandoned babies would be abolished, with a consequent lowering of the infantile death rate. In a monograph issued by the Division of Child Hygiene of the New York Board of Health, it is stated that during 1910, 42 per cent of the total deaths of babies under one year of age in the Borough of Manhattan took place in institutions (inclusive of both foundling asylums and general hospitals).

In order to get a general idea of the usual death rates in institutions that house many infants, the writer has made a study of the statistics of ten of these asylums located in different cities as follows: New York, Buffalo, Boston, Providence, Philadelphia, Baltimore, Washington, Detroit, St. Louis and New Orleans. The time covered varied from four to twenty years, taking the shortest and longest intervals. The rates were based on the ratio between yearly admissions and deaths and were as follows: 53.17 per cent; 40.6 per cent; 40 per cent; 60 per cent; 31.7 per cent; 75 per cent; 65.8 per cent; 47.7 per cent; 36.1 per cent; 49.5 per cent. In all but one of these institutions, the deaths included all infants under two years. As the greatest mortality is under one year, the showing would be worse if restricted to this age. The following figures, taken from one of these institutions, exemplify this point: During 1907, 320 were admitted; of these 147 died under one year and only 18 between one and two years. During 1908, 417 were admitted, and of these 113 died under one year and only 12 died between one and two years.

There is no doubt that the figures cited above give a fair average of the mortality when young infants are collected together in numbers and treated in mass. The high mortality is not so much due to lapses in care or details in management as to the system itself, which fails because it is wrong. As a contributing cause, however, it may be mentioned that rarely, if ever, is sufficient individual care given to infants in institutions. As a result, the condition of those who live, is apt to be decidedly below the proper development for the age. It is only fair to say that many babies sent to these asylums are in poor condition from neglect and hardship—sometimes even moribund—but still it is equally true that a very much larger proportion could be saved by a different method of handling them. This consists in placing them in individual homes where the many risks and dangers of the institutions will not exist, even though the domicile be crude and rough. The baby will do better here in the long run than in the most immaculate ward, but visiting and watching will be required. The full benefits of boarding out cannot be obtained without proper and continuous oversight, preferably by a trained nurse. This constant supervision is rarely carried out as it should be under the direction of a physician. Thus in one institution, about 700 boarded out babies are looked after by only four visiting nurses. In this case, it is manifestly impossible to be sure that the babies are receiving the proper medical and hygienic care.

Boarding out must be more systematized and the same detail and routine that are usually employed in institutional work should be applied here. Twelve years ago the writer instituted a plan of boarding out atrophic or abandoned babies in which the following features were emphasized: (1) Boarding out in a certain district of the country noted for its healthful conditions. (2) Constant attention to diet and hygiene on the part of a doctor and nurse who are thoroughly familiar with this class of cases and competent to deal with them. (3) The infants are kept as long as necessary, until feeding is regulated and digestion and assimilation are improved sufficiently to result in an increase in weight. The work is kept up during the whole year, and not limited to certain seasons. (4) The training up in a given neighborhood of a number of foster mothers, who, by constantly taking these infants into their homes, become fairly expert in handling them under conditions totally unlike those offered by the best institutions and far superior to them. This work has been in successful operation

ever since under the control of the Speedwell Society at Morristown, N. J.

This plan can be employed in any place, with such variations as may be required by the special locality. Thus in a large city, it may be best to work in distinct districts which can easily be overseen by someone familiar with the neighborhood and its people. This means a more intensive working in many small fields, but all cooperating in a common system. A few small collecting stations, that would act as clearing houses, can take the place of the large institutions and furnish the doctors and nurses necessary to carrying on the work. A vast field can thus be covered, but the actual work must be done in small units, each represented by a certain district or locality. Relief will thus be instituted along the lines of family life with individual supervision instead of the collective life with institutional methods.

The unit of civilization is the family which offers the healthiest physical environment. The most susceptible member of the family to all external conditions is the infant. When transplanted from natural and normal conditions, the little ones quickly droop and suffer most. We must see to it that relief is afforded in the most natural and effective way to these unfortunates who come under our care. For this reason the infant asylum must go. Cottages must take the place of barracks. An increased knowledge of the real needs of infant life will not tolerate the old methods much longer, for a larger and wiser human spirit is at work on these problems, which is not content to put up with evils that can be avoided. If the present workers in this field will not improve their methods, then some future generation with wider vision, truer courage and broader human feeling will accomplish this needed reform.

THE CARE OF INSTITUTIONAL INFANTS OUTSIDE OF INSTITUTIONS

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Perhaps nothing is more characteristic of the age in which we live, than the emergence into our every day living, of what may be called a Social Consciousness, of the realization that no one can live unto himself, and that his well being is inevitably bound up in the well being of the community in which he belongs. This leads to an increasing interest in the constituent elements, in such a community, and to a desire to bring comfort and relief to those members politic, which have need. Happily, we have come to believe that this aid must be given, not as alms or charity, but as a right, which these less fortunate members of society can claim as their own, and we know that the withholding of such help will hinder the whole triumphal march toward higher things.

No class in the community has so undeniable a claim to the interest and assistance of those who know and have, as has the defenseless infant. The gradual recognition of this fact marks the social age in which we live. We are beginning to see the dawn of the children's day. The great loss to the race in the unduly high infant death rate has now long been realized, and searching inquiry has been directed into some of its more evident causes.

Maternal nursing has been fostered, pure milk crusades have been launched, milk stations and district nursing have been begun. The importance of fresh air, proper clothing and cleanliness has been taught in all our streets and alleys. The response has been remarkable. On all sides, where the true maternal instinct could be appealed to, the mothers have accepted the proffered advice with gratitude, and the infant death rate has markedly fallen.

A large group of infants, however, and perhaps the most needy of them has been affected comparatively little by these movements, I mean the large numbers of *homeless infants*, an army of waifs, many of them the fatherless evidences of shame, others, members of family circles broken by death, desertion, poverty or ill health. All these and their kind have rights to life, which are not fulfilled when the doors of an institution are closed upon them, or by any than the best substitute for the natural home that has been denied them.

In the past, asylums and kindred institutions, often beautiful in architecture and imposing in appearance, built by the state and philanthropy, were thought to be the most suitable places for the fostering of infant and child life, away from the baneful influences of immoral or unhealthful homes. Whatever may be said of their advantages, for *older* children, and these are now thought to be outweighed by various disadvantages, which become evident when the battle of life is commenced, there can be no question, whatever, that large institutions, where well infants are treated collectively, are utterly unsuited for the permanent care of infant life.

No community, therefore, interested in baby welfare, can feel its duty well performed when a considerable number of these dependent waifs, is assigned for their early months, to the best equipped and luxurious of institutions. Doubtless, most of this audience is familiar with statistics of institutional infants, but the public at large cannot understand their meaning, for if it did, it certainly would take immediate steps to remedy their evils. The experience in Baltimore can be duplicated in many cities in the country. Out of 229 foundlings committed by the city to institutions in the last ten years, 204 or 88 per cent died within a few weeks.

Many of these children were diseased and weak, but the large majority, were healthy new-born babies, whose lives were lost simply because their environment was not suited to their needs. The institutions to which they were committed were excellent of their kind, good milk, regular feeding and kindly nursing was furnished. The thing that was lacking, and which seems to be essential for baby life is *individualizing*, motherly care and quiet. One only has to visit a typical asylum baby ward to realize how ill adapted it is to the demands of baby life. The long rows of cribs a foot or two apart, the necessarily mechanical rules of feeding and care, the frequent lack of sufficient air-space, the constant crying of some baby, the rapid moving to and fro of attendants, these and similar factors create an atmosphere, in which it seems to be impossible for an average healthy baby to thrive for a considerable period. Wards such as those described, have no resemblance to a normal home where only one baby is present at a time to receive the undivided care of the mother. Such wards have always seemed to me to resemble more, a cemetery with its rows of white head stones, of which indeed it is usually the forerunner.

In the last two summers the value of quiet and individualizing care for weak and convalescent babies has been well illustrated by our experience at the Thomas Wilson Sanitarium,

near Baltimore. At this country hospital, in addition to the larger wards, there are three separate two-roomed cottages under forest trees. To these cottages were transferred a number of malnutritic babies, who were not doing well on the ward, despite the fact that they lived for the most part on open porches, and had sufficient routine care. Almost without exception, the babies so transferred, and isolated two or three to a room at night, and placed under trees by day, where they could not disturb each other improved, on *precisely the same diet* on which they were gradually losing on the ward. I had tabulated the number of hours in the twenty-four, these babies slept on the ward and in the cottages, and in the latter situation, the hours of sleep were *almost double* those on the ward. It would be difficult for a large asylum to duplicate the favorable conditions, which are to be had at this summer hospital for babies, and hence I feel strongly that notwithstanding the pure milk, the very efficient service of trained nurses and nursery maids, one to every three or four babies, the hospital ward is not a good place for the baby to stay when acute symptoms are over. There is a nervous strain in a large institution, an excitement produced by the attendants passing from cot to cot, which seems to be definitely harmful to an infant. Until such time as normal home life can be more closely simulated by institutions caring for infants, and babies can be segregated in groups of two or three in separate rooms, and each of these groups given the undivided attention of a skilled attendant, can institutional life be substituted for family life with any hope of success. I need not weary you by statistics of institutions offering permanent care of young infants. In such places the death rate is high the world over, from forty to ninety per cent, usually nearer the latter figure, and it has been lowered only by admitting with the infants, their mothers, who nurse their babies and give them the individual care that would otherwise be lacking. If the normal baby has a death rate higher than any other age period of life, when brought up in its own home, by its own mother, how much greater must we expect the loss of life, of the so-called dependent infant to be, with an average of considerable less vitality, with a larger incidence of disease, when cared for under such abnormal conditions as are offered by institutional life. If we would save these babies, therefore and they are well worth saving, for the majority of them will grow up into efficient manhood and womanhood, we must see to it that they are surrounded by conditions at least approaching those of their more fortunate brothers and sisters. The need is for home life properly super-

vised, a foster home that is as nearly as possible like the home that is their birthright and from which they have been deprived. It is perhaps ill becoming for one, from another community to come to Boston, and plead for the substitution of foster homes for young infants, for certainly in no American city has this ideal arrangement for the continuous care of the dependent infant been so generally carried out, through your most efficient Children's Aid Society, and particularly by the Massachusetts Babies Hospital, which I understand now has been able to do entirely away with the institution and supply, for these cases, boarding homes, under medical and nursing supervision.

It is thrilling to note in a recent report that, of a total of 816 infants under their care in one year but 86 died, a mortality rate considerably lower than that of all classes of infants in the country at large. Work of similar character is being admirably carried on in New York and Philadelphia and in Baltimore on a smaller scale. In this method of efficiently caring for the young infant, we are following the lead of older European countries, which with various modifications, have used a boarding out system for many years with results much more satisfactory than were ever obtained through institutional care alone.

In even younger lands, as in Ontario, Canada, and in Australia, all infants deprived of their natural parents, are made wards of the state, are registered and placed out in homes, if for no other reason than the enormous value which accrues to the state from the lives that are saved by this system.

The experience of Dr. Bernado's homes, probably the largest charity in England, dealing with infants, is most instructive. Years ago they established a large institution, especially for babies, called the Baby Castle. It was said to have been beautifully designed and perfect in every detail, but in it the babies did not thrive. The general secretary of this endowment, writes that their experience leads to the conclusion that a large segregation of babies under one roof is fatal to their well being and health, however carefully they may be looked after. The improvement of the babies after boarding out, was most marked and they do not hesitate to affirm that the death rate of institutional babies is four times that of those placed in homes.

Our own experience at the Thomas Wilson Sanitarium, although limited, is also suggestive. During the last three years, we have placed out to board in farmer's families, within a radius of about three miles of the sanitarium, about seventy-five infants. The cases selected were either those convalescent

from acute disease, but which in our judgment, were not strong enough to return to their homes during the hot weather, or those who able to leave the sanitarium would have gone to homes, which in the opinion of our nurses were unfit to undertake the care of an infant. Almost without exception the infants so placed did better in their foster homes than if they had remained in the hospital. Last summer we assigned a nurse to the supervision of these boarding homes. She made three or four visits a week to each home, weighed the babies and instructed the foster mothers as the district nurses do in the city. Several very young babies did very badly and were readmitted to the hospital. There was no difficulty whatever in securing these homes for both colored and white infants at from \$2.50 to \$3.00 a week. A number of satisfactory homes were offered for which we had no suitable cases. I am confident that some such system of placing out selected cases would be a most valuable adjunct to every infant hospital receiving ill babies and which wants to make its influence permanently helpful in the community.

The record of our Children's Aid Society in Baltimore, the Henry Watson, in its care of the unmarried mothers and the illegitimate child has been wonderfully successful, as compared to the antiquated methods of social ostracism of the mother, and more or less speedy institutional death for the child. In the last three years more than seven hundred of such cases have been treated with an infant mortality of less than four per cent. In every case the mother has kept her child, and probably on this account there rarely has been a second pregnancy. In most instances, the women usually from the country have been allowed to return to their own communities, nearly half of them have been subsequently married. Here, too, there has been no difficulty in securing temporary homes. To make this system successful, strict and efficient supervision is of course essential. The foster mother must realize that a strong sympathetic body is behind her ready to help her in every way and to furnish medical aid to the child in case of illness. When this relationship is understood the experience now of many placing out societies agrees that satisfactory homes and at reasonable rates can be found to meet all suitable cases. In this way, a new and honorable avocation is opened to many worthy women, who need assistance and who often have difficulty in securing remunerative employment. In this field of endeavor, as in all other really effective social work, generalizations have their definite limitations. If you would really help any given baby that particular baby's needs must

be supplied. If it be a sick baby it can probably be best helped in an infant's hospital, where its disease can be studied, a diagnosis arrived at and proper treatment furnished more readily than in any other way.

There is a crying need in all parts of the country for a multiplication of modern hospitals, thoroughly equipped for the treatment of the diseases of children. If it is a well baby, by misfortune for which it is not responsible, deprived of a home, a *home* must be furnished, if a charitable and just public would give the baby its rights. When we consider how sacred the life of an *unborn baby* is in the conception of *cold legal justice*, and how promptly the taking of this life is punished by the State, it is not a travesty upon justice to insist upon the birth of these unfortunate infants, and then intentionally or quiescently to permit them to be so treated as to destroy their lives in a few short weeks.

The Master himself, never asked if the children, who came to Him so willingly, were the offspring of blessed or unhappy love, and it would seem to be the duty of those, who follow falteringly in His footsteps, to see to it, that every child, no matter what its origin, is surrounded by such an environment, as will as far as possible, insure its health and a fair chance in after life.

**THE METHODS OR THE SYSTEM EMPLOYED IN CARING FOR
INSTITUTIONAL INFANTS ABROAD—MORE ESPECIALLY
IN GERMANY AND AUSTRIA-HUNGARY**

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Prof. Baginsky began his address on "Hygiene of City Infants" at the Fifteenth International Congress on Hygiene and Demography, at Washington, as follows:

"When the president of Section III told me that I should present a paper on 'City Babies' I believed it impossible to prepare such a paper with the narrow limits which a congress allows. Consider the many valuable books on this subject which have been written by Americans, to say nothing of us 'schreibselige' Germans, to whom baby life is the most precious of the nation's treasures. On the other hand, it is inevitable that the hygiene of city babies should be discussed at such a congress."

By replacing the title of Prof. Baginsky's address by the subject given me for presentation and by repeating it to you in this changed form, I could in no better way impart to you the state of mind I have been in since the beginning of my grapple with this paper. Especially will you realize the degree of my discomfort when I advise you that I am not a "schreibselig German."

To what group of infants do we apply the term of "institutional infants?" In the narrowest sense of the term, I believe to those that are housed in foundling or infant asylums until they are old enough to graduate to a children's orphan asylum. In our country most of the large cities have samples of such institutions, mainly in charge of the Catholic church. A typical institution of this sort, and possibly the largest in this country, is the New York Foundling Asylum. According to Shaw, there are thirteen institutions and hospitals in New York State devoted exclusively to the care of young infants. All of these are inspected by the State Board of Charities who require reports of admission and deaths. During 1902 the mortality rate was 34 per cent and in 1910 38 per cent. It is an acknowledged fact that many institutions of this type had during the earlier years of their existence, a mortality rate that in some instances was practically one hundred per cent. Evidently there has been some improvement. The fact, however, that the mortality rate in

1910 was 38 per cent, is sufficient evidence that these institutions are still a big factor in the production of unnecessary deaths amongst infants.

Folks points out that of the larger number of infants entering these asylums only a very small per cent are really foundlings, and that the biggest per cent are pseudo-foundlings. As Folks claims, this fact is of the greatest importance, because in the one instance the foundling is "thrust upon us," whereas in the other "we take him from his parents with our eyes wide open deliberately and with full knowledge of what we are doing." I wish to point out, however, that this differentiation is only important to those of us who realize the great destructiveness of these institutions and are anxious to prevent it. We imagine if we were to tell the parents or friends who are bringing the infants to these institutions how they can do much better for their infants by following another course, that we would have the opportunity of preventing many of these unnecessary deaths. It is a question, of course, whether such a procedure would not force more of the mothers and fathers bringing their infants to such institutions today, to adopt the plan of making their infants "real" foundlings by dropping them at all hours of the night on the doorsteps of such institutions. I personally do not believe that such a result would be obtained, except in occasional instances. For the institutions, however, who seem to be solely concerned in the higher number of admissions to their institutions and for those parents who are anxious to dispose of their children, the differentiation between foundling and pseudo-foundling does not exist. The pseudo-foundling is just as much a foundling as the real foundling, for the simple reason that the dropping of the child at the doorstep is no easier and more secret than bringing it in broad daylight to an institution that is anxious to accept any infant, providing that the parent or responsible person is willing to dispose of it with the understanding that it cannot be re-claimed and its future whereabouts be a mystery to the parents or responsible person.

That hand in hand with this method of encouraging separation of the baby from its mother goes ignorance, neglect, and disregard for the infant's life, is evidenced by the overcrowding, poor ventilation, inadequate care, and improper feeding so regularly found in such asylums. In my opinion this condition is disgusting, inexcusable, and the blackest blot on American civilization.

Although a few institutions of the above described type may still exist in some of the European countries, there has been such a decided change in the conception of the value of an infant's life and the best manner to protect it, that it would be impossible to discuss "institutional infants" in the narrow sense of the term given above, for the simple reason that they do not exist in sufficient quantities to make their consideration worth while.

In European countries the institution has ceased to be a permanent home for infants. Nowhere does the well infant remain in an institution longer than four months and in most countries the stay at the institution is only long enough to enable physicians to decide whether on the one hand the health, resistance, and feeding ability of the child is good enough to permit its being boarded in a home, and on the other hand, to give the institution time to find such a home. It is, therefore, readily seen that in most countries, under ordinary circumstances, an infant remains in an institution as such but a very short time, even though he be a charge of such an institution. Most of the infants spend the greater part of their infant lives in the homes of individual families. If they are ill they are usually sent to a hospital or to the institution through which they passed before entering the home. Whenever a dependent infant returns to the admitting institution as an ill infant and remains there, this institution is for him not an infant asylum but an infant hospital. In short, most of the infants that in olden times remained in institutions for a number of years, today pass, of necessity, through various kinds of institutions, and remain mainly in family-homes.

Owing to the fact that in each country, with possibly the exception of Hungary, there is no definite field allotted to the various institutions and, therefore, in the one case an institution will meet a number of needs and in another only one, it is a most difficult task, as Keller and Wurtz justly state, to present a clear and systematic statement. I finally have come to the conclusion that I will best meet the difficult opportunities of this subject by first describing to you briefly the manner in which some of the European countries care for their dependent infants, and secondly, by describing to you the different types of institutions existing in these and other countries for the care of both well and sick infants, dependent or independent.

Until a decade or two ago there were in existence in Europe two systems of caring for dependent infants and children; the one, the romanian, which housed the infants and children in institutions, and the other, the germanic, which kept them in family-homes, preferably in those of relatives.

As stated in the beginning of this paper, the typical and most numerous examples of the romanian system are to be found in free America. In Europe they have been practically wiped out and have been replaced by a more or less modified combination of both systems. In Italy and Austria, where the romanian system was developed on a larger scale than in other countries, the buildings are now used as temporary homes and observation places for the infants before being placed or replaced in homes. The system of supervision of the placed infants, however, does not seem at the present to be nearly what it is in Germany and Hungary.

The two countries of Europe which in recent years have made the greatest strides in the care of their dependent infants are Hungary and Germany. Sweden also ranks high. In the arrangement, equipment and management of its infant hospitals and homes it is unsurpassed, just as it today stands and always has stood head and shoulders above all other countries of the world in its training of medical men in pediatrics. Austria and Italy, as stated above, while not having accomplished as much as the above mentioned, have still made big strides in the right direction. The least general advance has been made in Russia, England and France, especially in Russia.

GENERAL PLAN OF CARING FOR "INSTITUTIONAL" INFANTS

Hungary: Hungary is the only country that cares for its dependent infants and children in a national manner. The underlying principle of this organization is the following: every child which cannot be properly cared for by its relatives has claim upon care and help from the State, without the loss of any of its personal or family rights. In other words, any child, whether its parents are alive or not, that does not receive adequate care in the eyes of the State thereby becomes a charge of the State until it is fifteen years of age. The State of Hungary has been divided into seventeen districts. In each district there is an admitting institution where the child remains long enough to enable the physician in charge to determine its state of health, proper feeding for it, and the proper home to which it shall be sent. If the child has any surgical

disease or represents an especially difficult problem, he is transferred to the central institution, namely, to the one at Budapest, which is the best equipped of the seventeen. The main object of the entire organization as regards infants is the one to keep mother and child together, both in an institution and in a home, and to see to it that the infant gets breast milk.

The directing physician of the individual institutions has charge of all of the infants and children living in his district. He either personally or through his helpers—paid physicians, paid lady workers, and volunteer workers—visits and controls the homes in which these infants and children are placed. The amount of money that the individual families receive for the care of the infants and children placed within is so small that it hardly pays them for the financial outlay that the feeding and clothing of the infant or child demands. I had an opportunity to make with Dr. Szana, Director of the Budapest Institution, a trip into one of the colonies near Budapest, and was astounded at the enthusiasm and patriotism and self-sacrifice that was evidenced by the families that were caring for the infants and children. With them it was not a question of profiting financially, but one of helping to build up the Hungarian nation. In 1911, 55,000 children were under State protection and supervision, at a total cost of about 14,000,000 kronen.

Germany: Germany has but one orphan asylum, namely, the Säuglingsasyl, in Berlin, and this acts not as a permanent home for these infants but as an observation and preparing station, preliminary to the boarding out of the infants in individual families.

The foster-mothers who care for these and all other infants are under police control, inasmuch as they must first have a certificate from the police department that will permit them to become foster-mothers. Their work is controlled by representatives of the police department. Inasmuch as most of the infants boarded out in this manner are illegitimate, they become charges of the district orphan board. Every charge of this board must have a guardian. Originally individual and honorary guardians were appointed by this board but in later years, ever since Taube of Leipzig pointed out the disadvantages of this system and the advantages to be derived from the establishment of a general official guardian for all of these infants, many of the districts in Germany have made use of the power given them by appointing a so-called general guardian. This guardian, by the great experience which he gathers in

this work, soon becomes a most able and valuable protector of the infants' interests. By this method it has been possible to get many of the fathers of the illegitimate children to assume their financial and sometimes their moral responsibilities towards mother and child. Just as important, however, as is the legal advisor and supervisor to these infants and children is the hygienic and medical advisor. Dr. Taube, in 1882, succeeded, as physician of the orphan board, in forcing every individual who had received a boarder to report on the following Friday afternoon at the office of the Charities Department. The main characteristic of the so-called "Taube System" is the one that a salaried physician and trained woman regularly control and examine the children in the office and in their foster homes. In Germany, then, the dependent children are mainly cared for in homes. Their legal welfare is in the hands of the official guardian and their physical welfare in the hands of the physician of the orphan board. Those infants who are neither orphans nor children of the poor are supervised by officers of the police. In Charlottenburg the nurses of the Prophylactic Babies' Dispensaries there have been appointed official agents of the general guardian and in this manner are enabled to help make the supervision more thorough and safe. Keller states that the impression that the foster-mothers made upon him was in most instances a very good one.

VARIOUS TYPES OF INSTITUTIONS

Germany: Säuglingskrankenhaus—Infants' Hospital: A place where sick infants are cared for. The most recent and complete Säuglingskrankenhaus in Germany is the one at Weissensee, near Berlin. This institution has room for 65 beds, and admits children to two years of age. It admits patients with all the various diseases and has a special pavilion for contagious diseases. Five of the total eleven beds of the infectious pavilion are for diseases of the respiratory tract. Keller reports in 1912 a total of eighty infants' hospitals and infants' departments in general hospitals.

Säuglingsheim—Infants' Home: The name implies that these institutions are a home for well infants. It is true that nearly all of them act as temporary boarding places for a certain number of well infants and for the infants of the wet nurses who are on duty in the institutions. However, most of those that I have seen are more infants' hospitals than they are homes

for well infants, and many of them are a combination of a Säuglingsheim—Infants' Home, Säuglingskrankenhaus—Infants' Hospital, and a Mütterheim—a home for mothers. The best example of this combined institution is the Säuglingsheim-Westend near Charlottenburg. This institution is a Mütterheim; that is, it admits mothers with their babies, and usually at the time of discharge and by transfer from a maternity hospital. These mothers must remain in the institution with their infants and nurse them for at least three months. At the end of that time the institution tries to keep mother and child together—with the child at the breast—by finding a position for the mother which will permit her to return to the institution during the middle of the day in order to nurse her infant and which will also permit her to sleep there during the night. In order that these mothers be not burdensome to the institution, a part of the building is set aside as a kitchen, living and sleeping quarters for these mothers. They get their own meals and run their own household, by alternately assuming various duties. The infant remains in the Säuglingsheim proper—infants' home—and its mother pays a certain amount for its care. Recently this institution has added a Wöchnerinnenheim—a department for pregnant women—to its already varied list of activities. If they are willing to do light work they need not pay. For the confinement they are sent to the city maternity hospital, whence they return at the end of eight to ten days to the Mütterheim. I think this institution shows better than any other this point: that the Germans are interested in giving the young mother an adequate chance to remain physically strong both before and after the birth of her child and to keep mother and child together and the child at the breast.

Krippen—Nurseries: Various forms.

- (a) Tages-krippen—day nurseries.
- (b) Fabrik-krippen—factory nurseries.
- (c) Jugendheim—a combination nursery where infants, and children of kindergarten age, remain during the day, and where school children go after school hours, do their home-work and get their supper, then all return to their homes.

Säuglingsasyl—Infant Orphan Asylum: Of these there exists only one in Germany, and it is in Berlin. It acts as an observation station.

Walderholungsstätten—Out-door Wards: Usually in connection with a Säuglingsheim or Säuglingskrankenhaus, they are open during the summer months.

Pflegeheim für Syphilitische Kinder—Home for Syphilitic Children: In 1909 such an institution was built in Berlin, following the example of Weylander (Stockholm). Children admitted to this institution must remain for four years. It has a total capacity of forty. Ten cases are discharged and ten cases admitted during one year.

Forschungs-Institut—Research Institute: The Kaiserin Auguste Victoria Haus zur Bekämpfung der Säuglingssterblichkeit im Deutschen Reiche is the institution which in Germany represents the center of all social and scientific-medical work in connection with the prevention and reduction of infant mortality. A similar institution has also been developed in Vienna from the Kaiser Franz Joseph Jubilee Fund. This latter institution, however, does not do scientific research work. It aims to be the center of all social medical work pertaining to the protection of infant and child welfare in the country, and also the advisor to all institutions and associations planning to work in this field. It further plans to act as a teaching institute for doctors, nurses, nursery-maids, mothers, etc., in the care of well and sick infants and children; in other words, it is mainly an educational institution.

Sweden:

(a) *Nurseries:* Mostly for the care of children from two to six years of age; in some of them infants are admitted. At the present time there is a movement to increase the number of infants' nurseries.

(b) *Homes for young mothers:* Institutions where mothers can rest with their babies for three or four weeks after departure from the obstetrical hospitals.

(c) *Mother and infant homes:* Where mothers can remain with their infants as long as the mother will nurse her baby. The mothers are taught many useful household duties and especially are they educated in the care of their infants.

(d) *Medically directed homes for artificially fed infants:* Mothers, especially illegitimate, who feel that they must find some work, may place their infants here until the physician in charge is convinced that it will be possible to feed them artificially, and a proper boarding home has been found for them. It also serves as a training school for young educated women and girls.

(e) *The general home for children*, which at the present time carries on the following activities:

- (1) Poor unmarried mothers who can nurse are admitted with their nurslings to act as wetnurses for eight months.
- (2) Accepts children of unmarried mothers as charges of the institution provided that they are from a few days to six years old, and provided further, that a fee of 600 Kronen is paid.
- (3) Admits children from the Charities Department of the City of Stockholm at a reduced rate of 500 Kronen for infants and 400 Kronen for children from one to six years.
- (4) Foundlings or other homeless children whose parents are either dead or imprisoned, insane or ill, can be temporarily admitted until other means are found to care for them.
- (5) Children over six years of age are not accepted as charges of the institution.
- (6) Ill infants are admitted at a cost of 2 Kronen per day. During the last years 50 to 60 have been admitted annually.

For the children mentioned under 1, 2 and 3, the institution assumes all parental rights and cares until these children have reached the age of 15 years. However, this institution mainly represents a temporary resting place of three to four months for nurslings and their mothers. At the end of this time the children are usually weaned and sent into homes in different parts of the country. The institution itself is very well managed, is very roomy, well ventilated and lighted. It makes an excellent impression upon the visitor, especially by the fine specimens of nurslings which it has.

For the supervision of the boarding homes and the infants and children placed in them, the institution employs four inspectors, three for the province and one for Stockholm. These inspectors visit each home at least once a year.

(f) *Säuglingskrankenhaus (Stockholm)*: An infants' hospital of 54 beds. This instituton has the most beautiful location that I have ever seen any hospital or institution have and is a model in practical arrangement and equipment. As a matter of fact, the Swedish institutions, are nowhere surpassed and stand, together with Germany's, above those of the other European countries.

Hungary:

While Hungary's institutions are not as good as those of Sweden and Germany, its plan for caring for dependent infants and children is the best and most comprehensive.

The main points in the care of the so-called institutional infants in both Germany and Hungary are:

- (1) to keep mother and baby together,
- (2) to give the infant breast milk,
- (3) to place the infant in a properly chosen and supervised family-home, and
- (4) to use institutions—unless mother and child are together and the baby at the breast and well—only as temporary stopping and observation places.

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INSTITUTIONAL MORTALITY OF THE NEW-BORN

A Report on Ten Thousand Consecutive Births at The Sloane Hospital for Women, New York

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Much interest has recently been awakened in a study of infant mortality during the early weeks. The importance of such a study is evident for several reasons. According to the best recent statistics available, one-third of the deaths of the first year occur in the first month of life, and seven-eighths of these come in the first two weeks. Using our own statistics to supplement these, of 100 infant deaths during the first year, approximately

33 occur in the first month
28 occur in the first two weeks
22 occur in the first week
13 occur on the first day

This is a concrete statement of the problem of infant mortality from one point of view. While the campaign for the reduction of infant mortality has greatly lowered the deaths from diarrheal and nutritional diseases and has made some considerable impression on respiratory and contagious diseases, thus far it can hardly be said to have touched at all the causes of the large group of deaths in the first month. Finally, at no time of life is diagnosis so difficult and the records of vital statistics so unreliable in giving the exact causes of death as during the first month.

It was thought, therefore, that an analysis of a group of cases from an obstetric hospital would shed considerable light on several phases of the problem under discussion. The records of the Sloane Hospital for Women in New York have been kindly placed at our disposal by Professor Cragin for this study. These records are especially valuable for such an investigation, as they are unusually complete and have been kept with great care.

While the number of cases analyzed is small when compared with the statistics of a large city, the hospital figures have the greatly added value of more accurate diagnosis and are in all respects much more reliable than records available from general vital statistics.

What is an average or normal mortality among 10,000 births? How do the general figures of the city compare with those of a special institution? How much of the general mortality of the first two weeks could be prevented by proper obstetrics? How much of it is due to malformations and unavoidable accidents of delivery—causes which are beyond the reach of usual or even extraordinary preventive measures? Some of these questions we hoped to answer.

Ten thousand consecutive confinements in the Sloane Hospital for Women have been analyzed for this paper. These occurred during a period of about six and one-half years, ending in October, 1913. They were divided as follows:

Abortions (foetus non-viable, less than 37.50 cm. in length)	253
Stillbirths (foetus viable, 37.50 cm. or over in length)....	429
Living births	9,318
	<hr/> 10,000

The hospital receives but few waiting women; nearly all are admitted after labor has begun. Patients are regularly discharged on the fourteenth day, and complete mortality records are therefore possible only for this period. In many cases infants who were ill, not thriving or premature, were kept for a longer time and some interesting facts regarding hospital mortality during a period longer than fourteen days are presented in this report.

In our paper we have first followed the fortunes of the 9,318 infants born alive, and later have analyzed the stillbirths.

The total deaths occurring in the first fourteen days were 91, these being 3.1 per cent of infants born alive. Of these, 159, or 54.6 per cent, occurred in infants born prematurely; 132, or 45.4 per cent, occurred in infants born at term. Prematurity must, therefore, be recorded as the largest single factor in infant mortality of this period.

The following tabulation gives the exact time of death in premature infants and those born at term:

	Premature	Full Term	Total
Died on first day.....	102	38	140
Died on second day.....	8	10	18
Died under one week.....	135	98	233
Died during second week.....	22	34	56

Of infants born alive, 1.5 per cent died on the first day;¹

¹ Twenty-seven died during the first two hours. Were these classed as stillbirths, as is not infrequently done, the total mortality under 14 days would be lowered from 3.1 to 2.8 per cent.

2.5 per cent under one week; 3.1 per cent during fourteen days. Nearly one-half (48 per cent) of the deaths of the first fourteen days were on the first day.

Curiously, a report by Kerness² from the Universitäts-Frauenklinik, Munich, for four years, 1907-1911, gives exactly the same mortality, 2.5 per cent of 9,610 living births during the first eight days. The figures given by him for the other periods are not recorded, so that they cannot be compared.

Infants have been classed as premature if they were born after the beginning of the twenty-seventh week of gestation and before term. As reliable information on this point was not usually possible to obtain, the length, weight and general development of the child were also used as a guide. Infants have been considered premature who measured less than 46 cm. (18½ in.) in length, and also those whose weight was less than 2,275 gm. (5 pounds). Only two cases have been included among the prematures in which these figures for weight and length were both exceeded; these were regarded as premature for other reasons:

The measurements of the premature infants were as follows:

Length		Weight	
40 to 44 cm.	90 infants	Under 3 pounds.....	40 infants
44 to 47 cm.	64 infants	3 to 4 pounds.....	72 infants
47 to 48½ cm.	10 infants	4 to 5 pounds.....	63 infants
		5 pounds and over.....	8 infants

Only two of this last group were over 46 cm. in length.

The causes of the premature birth in many of the cases were not recorded, but certain facts were obtainable from the records. The age of the mother, the condition of the baby and the number of the pregnancy were usually noted. The age of the mother seemed to be without influence. In only four instances was the mother under 15½ years of age, and in no case under 14 years. Three others were between 17 and 19 years; 103 between 19 and 30 years; 46 between 30 and 40 years and only 1 was over 40 years. In 90 cases the mother was a multipara; in 70 cases a primipara; one unknown. The baby's condition was recorded as good in only 13 per cent; fair in 31 per cent; but poor in 56 per cent.

The labor was spontaneous in 132 cases and induced in 27 cases; in 20 of the latter the reason was toxæmia of pregnancy.

We will now pass to a consideration of the causes of deaths during the first two weeks, taking them up in the order of their frequency. These are shown in the accompanying table.

² Kerness: Ztschr. f. Kinderh., 1912, Referate, iv, 19.

CAUSES OF DEATH DURING FIRST FOURTEEN DAYS*

	Under One Day		Under 7 Days		Seven to 14 Days		Total Under 14 Days		Grand Totals
Congenital weakness....	93	2	120	7	14	2	134	9	143
Accidents of labor.....	1	14	1	32			1	32	33
Pneumonia			3	9	3	18	6	22	28
Atelectasis	3	7	3	14	1	7	4	21	25
Congenital syphilis.....	5		6	1	6		12	1	13
Malformations		4	2	7		3	2	10	12
Hemorrhage				8		2		10	10
Sepsis				2		7		9	9
Asphyxia		7		8				8	3
Accidental		1		2				2	2
Undetermined		3		8				8	8
Totals.....	102	38	135	98	24	34	159	132	291

* Ten thousand confinements: Abortions, 253; stillbirths, 429; living births, 9,318. (Prematures—heavy type.)

CAUSES OF DEATHS DURING FIRST FOURTEEN DAYS

Congenital Weakness. This was assigned as the cause of death in 134 premature infants, and in 9 full-term infants, making a total of 143, or about one-half (49.4 per cent) of the total deaths under 14 days. This, then, is one of the very largest and most important factors of infant mortality. Its cause must be sought in the physical condition of the mother during her pregnancy, but not in circumstances connected with delivery.

Accidents of Labor. Accidents of labor were responsible for but 33 deaths, only one of which was in a premature infant. The most important accidents were intracranial hemorrhage and injuries to the head. The single premature infant died from a meningeal hemorrhage after ten hours; no forceps were used, and the diagnosis was confirmed by necropsy. Intracranial hemorrhage in infants born at term was given as the cause of death in 18, nine coming to necropsy. Of these 18 cases, forceps were used in 7, and 10 were breech presentations.

Besides the cases classed as intracranial hemorrhages, injuries to the head were put down as the cause of death in 10 cases, necropsies being made in 3. Of the 10 cases, forceps were used in 8, and 2 were breech presentations. The most frequently mentioned causes of these accidents were difficult

deliveries, persistent malpresentations and prolonged labor, the latter usually before admission to the hospital. Combining the above we have intracranial hemorrhage or injury to head or upper part of spine as the cause of death in 29 cases; of which 15 were forceps, 12 were breech deliveries and the diagnosis confirmed by necropsy in 13 cases.

Other accidents of labor causing death in rare instances were: Rupture of the liver, 2 cases; rupture of hematoma of the liver and peritoneal hemorrhage, 1 case; rupture of umbilical cord before labor, 1 case.

In 10,000 deliveries, therefore, accidents of labor caused death in but 0.33 per cent of the cases. Of the 291 deaths, 33, or 8.8 per cent, were due to this cause. Very few of the accidents of labor mentioned here belong to the preventable causes of infant mortality. That death was due to such causes in but 0.33 per cent is explicable only by the skilled management of complicated cases. Outside of a special hospital the death rate from causes of this sort would surely be higher; but in such an institution, even when we consider that a much larger proportion of complicated cases are treated than occur in general practice, deaths from accidents of labor form an astonishingly small fraction of the infant mortality.

Malformations and Congenital Diseases Other Than Syphilis. Of the 12 deaths from these causes, 4 were cardiac malformations; 2, intestinal; 2, of the nervous system, and 4 were recorded as status lymphaticus. Only 2 were in premature infants; of the 10 occurring in infants born at term, 8 were confirmed by necropsy. Monsters have been included among the stillbirths. These figures of course do not represent the number of malformations in 10,000 births, but only those which caused death in the first fourteen days. Four other deaths from malformations occurred in the hospital between the fourteenth and the forty-second day.

Atelectasis. This was a cause of death in 25 infants during the first fourteen days, 4 of these being in premature and 21 in infants born at term. They form a total of 8.6 per cent of all deaths. Necropsies were obtained in only 5 cases. Atelectasis is also given as a cause of death in 7 infants in the hospital after the fourteenth day. The causes of atelectasis were not determined. All but 3 were normal deliveries, one of these being a breech, and 2 were cases in which forceps were used.

Asphyxia Neonatorum. Asphyxia was a cause of death in eight born at term; in none of those born prematurely. It

caused 2.7 per cent of all the deaths in the first fourteen days. Six of the deaths occurred during the first six hours and all of them occurred on the first day of life. Among the causes of asphyxia were mentioned: Laryngeal obstruction; knot in the cord; cord tightly around neck; a loop of cord pulled out alongside the head with the forceps; application of the forceps to the after-coming head and inhalation of liquor amnii. In two cases there was placenta praevia.

Congenital Syphilis. The records of the Sloane Hospital offer but a limited field of observation on the results of this disease for two reasons. In the first place, cases which are markedly and definitely syphilitic are not, as a rule, received, although in fact a good many are admitted where symptoms are not very marked. In the second place, the Wassermann test was applied in but a small proportion of the cases used in these statistics. The figures for syphilis, therefore, are much smaller than doubtless would have been obtained were the cases taken from an institution of a different character, or from the city records outside of hospitals.

Congenital syphilis was named as a cause of death in 13 infants during the first fourteen days; 12 were premature and one born at term. In addition, there were 6 others, 3 premature and 3 infants born at term that died from this disease during their stay in the hospital later than the fourteenth day. The diagnosis of syphilis, as indicated above, rested in only a small number on the Wassermann test, but on the other symptoms, such as hydrops of the placenta, definite evidence of syphilis in the mother, pathologic evidence in the placenta, a history of other premature births or previous miscarriages, macerated stillbirths, etc.

Hemorrhage of the New-Born. No deaths in premature infants were recorded from this cause. Ten occurred in infants born at term, forming 3.4 per cent of the deaths in the first fourteen days. The earliest death occurred on the third day, three each on the fourth and fifth day, one each on the sixth, ninth and eleventh day; there was one also on the sixteenth day. Six received some form of serum treatment. Two had received full doses of human serum without effect; two, single doses of rabbit serum without effect; one, human serum, late and in small doses, without effect; in one other, full doses of rabbit serum, late, without effect.

Sepsis. No premature infants died from this cause; but of those born at term, 9 died from sepsis, making 3 per cent of the deaths in the first fourteen days. However, 5 additional

deaths occurred in the hospital from sepsis between the fifteenth and twenty-fifth days. Of the infants dying before the fourteenth day, cord infection, phlebitis, and abscess of the liver were present in 3 cases; cellulitis of the scalp and infection of the antrum of Highmore in one each, and 2 were of unknown origin. Deaths from sepsis later than the fourteenth days were 5, from the following causes: meningitis secondary to abscess of the scalp, cellulitis of the neck, suppurative mastitis, multiple abscesses; and one, cause not known. Two were forceps deliveries. The 12 deaths from sepsis were scattered through five years, not more than 2 deaths from this cause occurring in any single year. This is a striking evidence of the efficiency of the asepsis of the institution.

Pneumonia. Pneumonia was the cause of death in 28 infants, or 9 per cent of those occurring during the first fourteen days, and of 38 infants who remained in the hospital for a longer time, none however, more than thirty-two days. Thus the total number of deaths from pneumonia was 66, or 17 per cent of the total 387 deaths which occurred among infants while in the institution. There were twice as many deaths as those due to accidents of labor. Pneumonia thus ranked next to congenital weakness as a cause of death during this period. So far as season is concerned, no special influence is seen on the occurrence of pneumonia; the largest number (39 per cent) occurred in the fourth quarter of the year.

Several distinct house epidemics of pneumonia were observed. In March, 1909, four deaths occurred from this cause within two weeks; in October, 1910, there were 5 deaths in four weeks; in September and October, 1912, there were 7 deaths in five weeks; in December, 1912, there were 5 deaths in three weeks. Many of these cases were diagnosticated lobar pneumonia and in a large proportion of those coming to necropsy extensive consolidation of the lung was found. In nearly all of the cases, however, catarrhal symptoms of the upper respiratory tract preceded the pneumonia. Only a small proportion of the pneumonias were seen in the first week of life, nearly two-thirds of the deaths occurring between the fourteenth and seventeenth days.

In obstetric hospitals, as in all institutions where infants are brought together, respiratory infections must therefore be reckoned among the greatest dangers to which these small inmates are exposed. More liberal accommodations for babies must be furnished than those provided in most of our obstetric hospitals and greater care to prevent crowding must be exer-

cised. It is also imperative that those infants who are suffering from even the milder types of infection should be promptly and completely isolated from the healthy, and that nurses also with infectious colds should be temporarily relieved from duty.

STILLBIRTHS

Probably no part of vital statistics is so unreliable as the records of stillbirths. This is due to many causes. The first is that there is no general agreement among the keepers of records as to what should be called a stillbirth. In New York City and State a case is classed as a stillbirth in which a child has never breathed nor shown other signs of life. This is perhaps the best definition that can be given. There is good ground for the belief that for religious reasons death certificates are sometimes written for stillbirths ascribing the death to other conditions. This would tend to raise slightly the figures for infant mortality during the first days of life. But there is not the slightest doubt that a considerable proportion of stillbirths are never registered at all. A convenient and not an uncommon way of reducing the infant mortality rate is to class as stillbirths all the deaths that occur soon after birth. A clerk of the board of health in a middle western city stated to one of us that prior to 1911 death certificates in his city for infants under one week of age were not filed at all. Some registrars of vital statistics have admitted that they were accustomed to class as stillbirths all children dying in two hours; others, all who died in the first two days. In our figures, had we classed as stillbirths all dying in the first two hours, we would have reduced our mortality 10 per cent. Had we excluded the deaths of the first two days, the mortality would have been reduced 50 per cent. From all these considerations it is evident that it is somewhat difficult to determine with even approximate accuracy what is the proportion of stillbirths to living births. The records of New York City may be taken as fairly trustworthy for a large municipality—they are much more reliable than those of most cities—especially since the classification mentioned above is rigidly adhered to. The past records of many cities are entirely unreliable and we cannot compare infant mortality figures until definite knowledge of what is included as stillbirths has been determined.

The percentage of stillbirths in an institution where careful records are kept is therefore of special interest. In the 10,000 confinements at the Sloane Hospital there were 429 stillbirths

or 4.29 per cent. It is interesting to see how this compares with the general records of the city. In 1912 the stillbirths were 4.64 per cent of the 142,280 total reported births; and in 1913 they were 4.65 per cent of the 141,765 reported births. These figures are sufficiently close to those from the Sloane Hospital to add much to their reliability. While the records of birth registration in New York are not absolutely complete, the Registrar of Vital Statistics estimates that as a result of agitation and penalties enforced during recent years, over 98 per cent of the births are now recorded.

In comparing hospital with general statistics it should be remembered that difficult and complicated cases form a much larger proportion of those admitted to a special hospital than occur in general practice. This would have the effect of considerably raising the proportion of stillbirths; since in half these the cause of the stillbirth is prolonged, difficult or complicated labor. But it would be expected that more skilful obstetrics and better care would tend to lower the proportion of stillbirths. That the percentage was reduced to 4.29 at Sloane certainly speaks well for the character of the work done there. We have been unable to obtain comparable statistics from other lying-in hospitals in this country. Kerness however, has given the figures from the *Universitäts Frauenklinik* in Munich. Among 10,297 confinements in four years ending October, 1911, there were 5.22 per cent stillbirths. What the percentage would be in our different cities were they all reported and honestly registered, one can only conjecture. Taking the Sloane figures as the basis of an opinion they ought not in general practice to be much over 4 per cent.

Period of Gestation. It was difficult to determine the period of gestation with anything approaching accuracy. This is best estimated by the length of the foetus.

Less than 42.5 cm. (16¾ in.)	56 cases
45.2 to 47.5 cm.	112 cases
Over 47.5 cm. (18¾ in.)	261 cases

More than half these cases were therefore evidently premature infants.

Of the cases, 75 per cent were admitted during labor and but 25 per cent were admitted previous to labor. In nearly half the cases (48 per cent), as the foetal heart could not be heard, the child was presumably dead on admission; while in 250 (57 per cent), the heart was not heard during labor. Further

evidence of the great number of deaths before admission was the fact that in 162 cases (37 per cent) the foetus was macerated.

The mode of delivery was as follows:

Normal	189	(44	per cent.)
Version with breech extraction.....	80	(18	per cent.)
Breech	76	(17	per cent.)
Forceps	59	(13	per cent.)
Craniotomy*	20	(4.6	per cent.)
Caesarean section.....	5	(1.1	per cent.)

Particular interest attaches to the causes assigned for the death of the foetus.

Prolonged, difficult or complicated labor: (Difficult, 75; prolonged, 25; placenta praevia, 20; prolapsed cord, 38; cord around neck, 29; accidental hemorrhage, 18).....	196	(45	per cent.)
Toxemia of pregnancy.....	63	(14	per cent.)
Syphilis	40	(9	per cent.)
Prematurity	18	(4	per cent.)
Monsters	7	(2	per cent.)
Unknown	87	(21	per cent.)

SUMMARY

The deaths in the hospital during the first fourteen days were 3 per cent of the living births. For half this number prematurity was responsible.

Forty-eight per cent of the total deaths and 66 per cent of those due to prematurity occurred on the first day.

Congenital weakness and atelectasis together made up 58 per cent of the total deaths.

The mortality from conditions intimately connected with delivery—accidents of labor, hemorrhage, sepsis and asphyxia—together made up but 20 per cent of the deaths of the first fourteen days.

Malformations and congenital diseases other than syphilis caused 4 per cent, and syphilis 4 per cent.

The only important disease developing after birth was pneumonia.

Stillbirths must be reckoned as one of the large problems in infant mortality; they are one and a half times as many as the deaths from all causes during the first two weeks. Except for the larger role played by syphilis, the causes of stillbirth in no way differ from those which produce death during the first days of life.

When we come to consider to what degree preventive measures might influence the mortality of the first two weeks of

* Craniotomy was done only on dead foetuses.

life, two things stand out prominently: The great number of deaths from congenital weakness can be reduced only by care of the mother during her pregnancy; the number of stillbirths and the deaths from causes connected with parturition can be largely reduced by good obstetrics.

DISCUSSION

Dr. Henry Koplik, New York: The mortality of infants below the age of one month, or in the first four weeks of life is of great interest, inasmuch as in institutions and municipalities it is recognized that this mortality is not only the greatest of the total mortality in the first year, but efforts are now directed to remedy as much as possible the avoidable causes of death at this early period. It is at this time it would seem as if scientific work of a preventive nature would achieve encouraging results. A discussion of this subject becomes of more definite interest if we have, as in the paper by Dr. Holt and Miss Babbitt, a study of a large series of cases taken from a closed institution, as it may be called, and where it is granted that every device known to the science of medical procedure is in vogue to obtain the best results. We can compare these studies with those obtained from the gross statistics of a large city, as New York, where the mortality of institutions is grouped with that of the practice among the public at large. A striking similarity in the causes of death appears from a comparative study of the two sets of statistics and this in spite of the gross inaccuracies which must of necessity creep into municipal board of health statistics. These inaccuracies are granted from the outset.

In a closed institution, such as the Sloane Maternity, in view of the great care taken, not only with the statistics of the infant, but also of the mother, these inaccuracies of statistical data are reduced to a minimum, and from what we have heard, have been practically eliminated. The great mass of humanity in a large city, and the most varied treatment by physicians, each with varying practice and ability, tend to increase errors of statistics. Yet in spite of all this the mortality statistics of a large city give us an index of the causes, avoidable and otherwise, of infant mortality in the first weeks of life, of invaluable utility.

In the study of this paper, as compared to my own studies in collateral lines, we find it granted that the greatest mortality occurs in the first four weeks of life. Fully 33 per cent of the deaths of infants during the first year occur in the first

month, and of this mortality fully 73 per cent occur in the first week. In Dr. Holt's paper 54 per cent of the deaths during the first two weeks were among the prematures, that is of living births. Outside of institutions it is difficult to get exact data on this point, for the prematures are classed with the congenitally weak, or under the heading of congenital debility, therefore if we group the premature and congenitally weak as Dr. Holt and Miss Babbitt have done, we find outside of institutions the congenitally weak form a large quotient of deaths. In my own studies and tables of a total mortality of 5,279 in the first four weeks of life fully 2,753 are classed as congenitally weak, or 52.1 per cent. If this is compared with the statistics of the closed institution (Sloane) we find a striking correspondence of figures, 49.1 per cent. Fully half the mortality in the first weeks is due to prematurity or congenital weakness or both. Before we take up the causes which may lead to this large mortality, let us first study the causes of mortality next in frequency of living births.

Outside of institutions, among the public at large, there is a considerable percentage of deaths in gastro-intestinal affections. The mortality from these causes, I have included among the premature and congenitally weak, for it is quite evident that among them these causes of death would principally obtain in institutions, such as the Sloane Maternity; we can scarcely expect any considerable death rate such as is due to unskilful feeding. In this respect too, statistical data will differ in and outside of institutions. I found also that in statistics furnished by the Board of Health for Greater New York, the number of deaths caused by instrumental accidents so considerable, as compared to the record from any institution, that the difference is striking. Of 5,279 deaths below one month of age in Greater New York, during the years 1911 and 1912, 936 died of accidents and injuries as a result of instrumental interference during birth. In the Sloane Maternity 32 out of 291 deaths were the result of accidents of delivery. In this respect we cannot help but feel that we have a preventable cause of death exposed for future investigation. Fully one in every five deaths is directly traceable to accidents and instrumental delivery at birth, naturally giving rise to the question, outside of *institutions*, as to whether the skilful exercise of instrumental aid in the delivery of infants is as great as it should be.

In the closed institution pulmonary affections, pneumonia sporadic or epidemic, etc., are next to be considered. Of these

the Sloane statistics give us 28 of 291 deaths of living births, whereas in the study of total municipal mortality quoted by me, I found a mortality from pneumonia and pulmonary affections of fully 526 deaths of a total mortality for two years in Greater New York of 5,279 infants in the first four weeks of life, a striking correspondence of 9 per cent.

Syphilis does not seem as syphilis to give any reliable data. In this argument I wish to emphasize the fact that the difficulties in estimating the role of syphilis as a cause of infant mortality in the early weeks of life seem almost insurmountable. We all understand how great a role this disease must play in the occurrence of prematurity and congenital weakness, and still we are as yet unable to say just how great this is for obvious reasons. In institutions the universal use of laboratory reactions which are now in vogue, was not possible in former years, hence if the mother did not present obvious signs of syphilis, it was impossible to fix with certainty its presence. The same may be true of the infants, many of whom in the first weeks present no sign of syphilis. It is more discouraging outside of institutions where the tests cannot always be applied for politic reasons, and where the individual personal element of medical skill of diagnosis plays a vast role.

THE STILLBIRTH

The study of stillbirths, their causation and prevention, will become of greater moment as time passes. It would seem as though among this great number of deaths there must be hundreds which are avoidable. Compare the statistics given by the Sloane Maternity, that of 4.2 per cent of the total number of confinements, with that of the municipal statistics of Greater New York for 1911 and 1912, 4.9 per cent, and of 1913, 4.6. The correspondence is quite marked and close. Of foreign statistics among those available to us are in Germany, 1906, of 2,084,738 births 62,261 were stillbirths, that is 3 per cent or 6 per cent of all the deaths. In the paper of Dr. Holt and Miss Babbitt the frequency of stillbirths in the Munich Maternity Hospital was 5.2 per cent of the total number of births, 10,297 (Kerness).

THE FIELD OF PREVENTION

It may be considered as settled that the potent causes of mortality among infants in the first two or even four weeks of life are congenital weakness, including prematurity, and

that also as a separate class the stillbirth plays a striking individual role, increasing the figures of this mortality. As to the influence of pneumonia and epidemic diseases in and out of institutions the figures are not so striking.

What may be said to lead to this condition of prematurity or congenital weakness in the infant? There is no question but that social condition of the parent has much to do with its production. The struggle for existence among the poor must in the end react on the foetus, the legitimacy or illegitimacy of the infant also will count inasmuch as the prevalence of constitutional disease is more apt to be present in the illegitimate than in the contrary state; nutrition of the mother, as far as her subsistence is concerned must also react on the health and development of the foetus. As far as stillbirth is concerned the role of constitutional disease must also be very great apart from accidents incident to delivery of the infant. We can from this see the future of the prevention of mortality in the first weeks of life. It lies first and above all in an antenatal care which must consider the necessities of the individual case. By this, I mean the discovery early in pregnancy of constitutional disease and its treatment. The care of the mother as to the necessities of life before labor, building up of weak bodies with good food and surroundings, relief from work for an existence, the early care of the mother in case of faulty position of the foetus, and finally, though not least, the scientific care of the infant weak or premature according to the best principles of modern puericulture.

Dr. Charles Herrman, New York: During the last seven and a half years I have had the opportunity of observing about 3,000 new-borns from day to day in the Maternity Department of the Lebanon Hospital. For this opportunity I am indebted to the courtesy of the Attending Obstetricians, Drs. Waldo, Seeligman and Rongy. It must be evident to every one that the best results can be obtained only when obstetrician and pediatrician work hand in hand. In hospitals which have maternity and children's wards the pediatricist should also have at least the supervision of the care of the new-born, and in maternity hospitals an attending pediatricist should be appointed who should see not only the unusual cases, but should also make his daily rounds just as he does in the children's ward. Anything which may help to reduce the very great mortality during the first two weeks, even slightly, is of importance. Therefore, in the few minutes at my disposal I should

like to discuss briefly the question, 'Should a new-born infant receive anything during the first two or three days'? Practically all authors answer emphatically, no. But because a statement has been repeated with emphasis a number of times it does not necessarily follow that it is correct.

The reasons usually given are:

1. If food were necessary nature would have put it in the breast sooner.
2. The digestive tract of the new-born is incompletely developed.
3. The normal development of the intestinal flora must not be disturbed.
4. New-borns that receive something do not thrive better and frequently have disturbances.
5. Universal custom also among savage tribes.

1. Nature would have put it in the breast if needed. It is a well-known fact that the initial loss in weight in the new-born is greater with primiparae than with multiparae. In the first baby the initial loss will be say, 10 ounces, the second, 8 ounces, and the third, 6 ounces. Why? Because the mother has breast milk sooner and in greater quantity. If nature was right with the third baby, she must have been wrong with the first. We could probably rely upon nature entirely if we were dealing in all cases with perfectly normal mothers and perfectly normal infants. If we are following nature, why not follow the new-born baby's cry. It cannot be due to indigestion since ordinarily it receives no food during the first 24 hours.

2. If the digestive tract is able to take care of colostrum on the first and second day and breast milk on the third, it cannot be so extremely sensitive, and it is difficult to conceive of any remarkable change taking place in 48 hours.

3. In my tests I have used a solution of milk sugar. As colostrum and breast milk both contain this in from 3 to 6 per cent, it does not seem likely that it will disturb the normal growth of the intestinal flora.

4. I shall show later that in many respects the new-borns do better when given something, and in my experience at least they have had no disturbances that could be attributed to the solution of lactose.

5. Universal custom is often incorrect. It would not be difficult to cite examples. Czerny and Keller who are the strongest advocates of the "give nothing" method admit that

in animals the young suckle very much sooner, that the initial loss in weight is less and is regained much quicker than in human new-borns. On the other hand, they say that among savage tribes it is also customary not to give anything additional. Now it is true that what may be good for animals may not be good for human beings, but if I had a choice between following the example of the so-called dumb animals and savages I should unhesitatingly follow the lead of the former.

It is said that the new-borns that receive nothing show no signs of injury. To a certain extent I think we may compare this to feeding in typhoid fever. Even with the method of partial starvation a large percentage of patients recover, but all who have employed the method of more liberal feeding will agree that the patients have complications no more frequently, are better able to resist complications when they do occur, and are in a better condition at the termination of the disease, because they have lost less weight. The average infant can stand an initial loss of 10 to 12 ounces without any *apparent* disadvantage. The same cannot be said of premature or congenitally weak infants. This is pretty generally acknowledged so that in the latter early feeding is advised. But if an abnormal infant can stand it, why not a stronger one? It ought to be advantageous to reduce the initial loss; in some cases the loss of a few additional ounces might be enough to turn the scale. If the practitioner gets the impression that the giving of anything during the first 48 hours is injurious or unnecessary, he may hesitate to give those who really need it. *Water* certainly is necessary. It is usually advised to give a teaspoonful now and then. The result is that in a maternity ward it often happens that they (new-borns) get none, or at most an ounce or two a day. Anyone who has observed new-borns carefully must have noticed that on the third day after they have lost 10 to 12 ounces the tissues show a distinct loss of tone. This cannot be entirely without harm even if in most cases the injury is not strikingly apparent.

During the last five months I have employed the following method in 200 new-borns. Six hours after delivery the baby is put to the breast and thereafter regularly every three hours during the day. It remains at the breast for five minutes, and is then given one and a half ounces of a 10 per cent solution of lactose after each breast feeding. This is usually continued for the first 48 hours. If the mother has an insufficient quantity of breast milk and no other mother in the ward is available for breast-feeding, the supplemental feeding with a solution of

lactose is continued for one or two days longer. It has been found that a new-born needs from 20 to 25 calories per pound per day during the first few days to meet the energy requirement, so that the average new-born would need about 150 calories a day. The above method just about supplies that amount. The result has been

1. A reduction in the average initial loss from 11 to 6 ounces.

2. An increase in the percentage of cases regaining their birth weight after 10 days, from 35 to 65 per cent.

3. No inanition fever since the introduction of this method.

4. The infants have been followed through the first month and have retained their advantage as compared with control cases in which the old method was employed.

5. I have seen no disturbances that could be attributed to this method. After this method had been employed for a short time I found through an editorial in the Journal of the American Medical Association of August 1, 1914, that Bailey and Murlin had published observations from the maternity wards at Bellevue Hospital on "The Energy Requirements of the New-Born." (Proc. Soc. Exper. Biol. and Med. 1914, XI, 109) "They conclude that feeding the new-born infants for the first three days, in addition to the breast secretion, a formula of about the same composition as colostrum would appear to be a logical proceeding not only to fulfill the energy requirements but also to supply the water lost." I have used a solution of lactose because of the simplicity of its preparation. Lactose is normally present in colostrum and breast milk and can easily be obtained pure. My results are I believe as favorable as those of Bailey and Murlin with a formula of about the same composition as colostrum.

Dr. Herman Schwarz, New York: Dr. Holt's and Miss Babbitt's paper was of great interest to me for I have been collecting data for the past few years along similar lines. I have had the opportunity of doing this by reason of material observed and under my control at the New York Free Outdoor Maternity Clinic.

Of 4,500 pregnancies, there were 84 stillbirths and 32 abortions; the causes of stillbirths and abortions were not ascertained. Of 4,395 live-born children, 117 died in the first month, or 2.6 per cent; 41 in the second; 25 in the third; 17 in the fourth; 17 in the fifth; 15 in the sixth; 11 in the seventh; 17

in the eighth; 10 in the ninth; 18 in the tenth; 13 in the eleventh; 14 in the twelfth.

Of the deaths in the first month, 69 occurred in the first week, and of these 43 died on the first day, 10 on the second day, 4 on the third, 2 on the fourth, 5 on the fifth, 1 on the sixth, and 4 on the seventh. During the second, third and fourth weeks, the death rate was markedly diminished. The causes of these deaths are interesting; out of 117, 52 were due to prematurity, 35 to syphilis, 8 to abnormalities and deformities, 5 to hemorrhagic diathesis, 7 to congenital cardiacs, and 10 to sepsis including erysipelas. It is interesting to note the large number of deaths in the first week of life due to prematurity, and no doubt if we could analyze the causes of the still-birth rate we would find that prematurity and syphilis play a large role.

In a statistical study of the death rate in early infancy in the City of New York some years ago, I showed that in the course of a month there were about 1,200 deaths of children under the first year. Of these 1,200, 130 died during the first week of life, 38 during the second week, 42 during the third week, and 106 during the fourth week. This marked increase during the fourth week is characteristic of winter as well as summer months. Just what this is due to, I cannot say, most likely to the fact that it is between the third and fourth weeks that the poor add additional food, or wean entirely for some trivial reason. (Reference for above statistics, "Ergebnisse der Säuglingsfürsorge" No. 11)

MORTALITY IN SO-CALLED FOUNDLING INSTITUTIONS

Preliminary Report by the Committee on Vital and Social Statistics and the Committee on Pediatrics

It has long been known in a general way that the mortality in institutions for foundling and abandoned babies has been high, but "it is impossible to state in exact terms the gravity of the problem, for today no one knows how many infants pass through these institutions each year, whence and how they come, or whither they go at the end of their stay. How many die, and how many of those who live, lead lives of suffering and impaired usefulness, and possibly of dependency and crime, through the action of causes which might be prevented, and how these preventable causes may be removed—these are the questions for which answers must be sought."

An examination of the statistics of such institutions published by the New York State Department of Charities, shows that from 1909 to 1913, inclusive, 28,210 children under two years of age were cared for in eleven institutions in the state, and that the death rate for babies under two years for this same period, based upon the total number of children cared for, varied in the different institutions from 183 to 576 per 1,000, with an average mortality rate for the eleven of 422.5 for the 5 years. During the years 1909 to 1912, inclusive, the death rate for children under two, based on the estimated population for the state at that age, was 87.4, practically one-fifth of that in institutions.

In order to improve this state of affairs, if it is improvable, it is necessary to know in detail all the facts surrounding the admission of babies to such institutions, the care they receive and the character of the institution. The committee was desirous of starting this investigation early in the year, but was unable to procure the necessary funds for carrying it out upon the scale desired. It was not until the middle of the summer that a start was made and then it was only possible to study in part the conditions in one city—New York. The material has been collected by one of the members of the Committee on Vital and Social Statistics. The New York City Department of Charities was so impressed with the value of such an investigation that when it was learned there was danger of its discontinuance the Commissioner of Charities asked that it be continued under the Department. Without this hearty cooperation and deep interest it would have been impossible to obtain the information upon which this report is based.

The investigation aimed to determine the mortality in institutions among babies under one year of age. Three institutions in New York City have been considered as it is to these three that the majority of children in charge of the public authorities are committed. The statistics which accompany this report are all from official records.

It has been impossible without having access to the records in the institutions themselves to determine the relation of maternal nursing to the death rate. Unless a woman has been a resident of the city for a definite length of time she cannot become a city charge and these records are only of city charges. Therefore many babies, apparently admitted without their mothers, may have been admitted with them. All that it has been possible to do so far has been to study the distribution of the mortality according to age groups.

In one institution which has a large maternity service, there were only four deaths of babies during the first week of life among 298 born during the year. This gives a death rate during the first seven days of life of 13.4 per 1,000, which was 3.9 per cent of the total mortality under one year. Comparing these figures with those of a very high-class obstetrical hospital, we find in the latter the death rate under 7 days was 25.4. For the Borough of Manhattan it was 23.7 or 17.8 per cent of the total deaths under one year. The stillbirth rate was 32.5, while that for Manhattan Borough was 48.1. These figures are from the Health Department records. This result, which was rather unexpected, would seem to be further evidence of the value of supervision and care during the latter half of pregnancy, for most of these women delivered in the institution having the low rate were there several months before their babies were born and were under constant supervision, medical and nursing, while in the obstetrical hospital they were admitted late in pregnancy or in labor.

After the first two months, however, this favorable start was overcome and the general death rate under one year of age for this group of babies was 488.0 per 1,000.

In studying a series of 1,738 cases, the question arose as to the relative importance of the physical condition of the child on admission and the institutional environment in causing the mortality among these babies. It is rather a startling fact that of the 1,738 babies admitted at various ages under 1 year, 22.7 per cent died before completing the first month of residence, and 34.9 per cent before completing the second month. Of all deaths 44.3 per cent occurred in less than one month after admission, and 68.7 per cent in less than two months.

Babies are admitted in several ways to the institutions studied. The real "foundling" is of unknown parentage and is found in some out of the way place and taken by the police to Bellevue Hospital, and thence to a foundling institution where it becomes a charge of the city. Dependent and homeless mothers and babies, or babies alone, are committed by the Department of Charities after an investigation of conditions—some to remain for a definite time in the institution, while others stay on indefinitely. The largest group of babies for whose support the city pays, is made up of "surrendered" children, admitted to the institution without any control by the public authorities. The mother or the person leaving it in the institution states that the mother has been a resident of the city for one year and that she is "unfortunate." The institution makes no effort to verify the residence or to make any investigation.

In 1913 in one series of 1,738 children under one year of age 840 or 50.1 per cent were deliberately surrendered to the institutions, all legal right to, and responsibility for the child being thereby renounced. During the same period 59 babies were received as true foundlings.

It is a crime to abandon a baby upon the street, leaving it to die unless found in time by some passerby. It is entirely proper for a woman to abandon her baby to the care of an institution. Of the babies classified in our statistics as belonging to the "foundling" class, 64 per cent died during the first year of life. Of the surrendered babies, 59 per cent died before completing their first year.

This brief statement of facts, which have been found to exist in New York City—together with much other information in the possession of the committee, lead it to believe that the problem is one that calls for an investigation on a broad scale, which can only be secured through hearty cooperation with the institutions and with the public authorities.

As our president-elect has said: "For the real foundling our responsibility as a community and as charitable agencies is, at most, indirect and remote. For the so-called foundling our responsibility is direct, complete and unescapable. We take him from his parents with our eyes wide open, deliberately and with full knowledge of what we are doing."

I.

DEATHS UNDER ONE YEAR BY AGES ACCORDING TO AGE ON
ADMISSION

(2,120 Cases)

Age at Death

No. of Children	Age on Admission	Age at Death									Total Under 1 yr.	Rate
		Under 7 Days	7-13 Days	14-20 Days	21-30 Days	1 Mo.	2 Mos.	3-5 Mos.	6-8 Mos.	9-11 Mos.		
260	"Born In"...	4	8	5	9	27	22	28	16	6	115	442.3
363	Under 7 d...	6	10	18	13	37	24	31	16	6	156	432.5
294	7-13 days...		8	6	54	61	26	20	9	5	184	595.1
375	14-20 days...			8	26	94	33	31	13	15	220	586.7
193	21-30 days...				4	46	20	20	7	2	99	513.0
259	1 mo.....					61	30	19	8	6	124	478.8
148	2 mo.....						42	20	7	2	71	479.7
250	3-5 mos....							59	21	13	98	372.0
153	6-8 mos....								31	12	43	281.0
84	9-11 mos....									10	10	119.0
2120	Total....	6	18	27	97	299	175	200	112	71	1000	467.9

NOTE: The totals for "under 7 days" include the figures for "born in."

II.

ADMISSIONS AND DEATHS UNDER ONE YEAR BY AGES AND
METHOD OF ADMISSION

(1,738 Cases)

Age on Admission	Born In		Accepted		Surrendered		Foundlings		Committed		Total		Rates
	Total	Deaths	Total	Deaths	Total	Deaths	Total	Deaths	Total	Deaths	Total	Deaths	Per M
Under 7 d..	209	102	1	0	56	37	3	2	2	2	271	143	527.7
7-13 da.....			25	8	232	147	7	6	16	8	280	169	603.5
14-20 da.....			52	19	253	155	6	3	33	20	344	197	572.6
21-30 da.....			34	10	91	61	11	8	20	13	156	92	589.7
1 mon.....			15	1	113	67	18	11	64	30	210	109	519.0
2 mon.....			13	2	50	30	5	2	38	33	106	67	632.2
3 5 mos.....			15	4	62	22	6	5	111	43	194	79	407.2
6-8 mos.....			10	1	18	5	1	1	75	26	104	38	317.3
9-11 mos....			1	0	15	1	2	0	55	7	73	8	109.6
Totals....	209	102	166	45	890	525	59	33	414	187	1738	897	516.1
Rates.....	483.0		271.1		589.8		644.0		451.6		516.1		

EXPLANATION OF TABLE II.

Born In. Babies born in the institution and remaining there, with or without their mothers.

Accepted. Certain babies are received to whom the mother does not renounce her right because she remains and nurses her baby, or for some other reason.

Surrendered. Babies brought to the institution by the mother or some other person all right to, and responsibility for, whom are renounced.

Foundlings. Babies discovered in hallways, areas, etc., no trace of whose mother can be found.

Committed. Babies committed by the Department of Charities, after investigation.

III.

DEATHS IN RELATION TO TIME IN INSTITUTION

(1,738 Cases)

Age on Admission

	Born In	Born Out Undet 7 d.	7-13 Days	14-20 Days	21-30 Days	1 Mo.	2 Mo.	3-5 Mos.	6-8 Mos.	9-11 Mos.	Total
Average Length of Stay in days.....	101.4	42.4	54.4	65.1	60.1	58.8	47.9	56.9	44.5	31.4	
Per Cent. of Fatal Cases living less than 14 d..	4.8	17.9	12.8	19.4	11.9	15.8	32.8	17.9	9.4	.....	15.8
" " " 1 mo..	15.5	35.4	50.0	50.0	44.5	51.8	64.7	51.8	34.4	.....	44.8
" " " 2 mo..	41.7	69.2	74.7	76.0	67.4	75.7	80.9	71.8	81.2	.....	68.7
Per Cent. of Admissions living less than 14 d..	2.4	11.8	7.4	10.7	6.7	7.8	20.0	7.8	2.8	.....	7.9
" " " 1 mo..	7.6	22.6	29.8	24.8	25.0	26.8	40.0	20.9	10.5	.....	22.7
" " " 2 mo..	20.0	48.5	44.5	36.5	37.8	38.7	50.0	29.8	24.8	.....	34.9

SESSION ON OBSTETRICS

Friday, November 13, 1914, 2 P. M.

CHAIRMAN

DR. MARY SHERWOOD, Baltimore

SECRETARY

DR. JAMES LINCOLN HUNTINGTON, Boston

STATEMENT BY THE CHAIRMAN:

We are met to discuss one of the most important topics in the whole list of our varied lifesaving subjects. The question of medical education in the United States has within the last decade received a great impulse toward betterment. We see 35 per cent fewer schools of medicine in the United States than existed ten years ago; 11,000 fewer students of medicine, and 2,000 fewer graduates in medicine.

This might seem like retrogression, but it really means improvement, for the United States ten years ago had an extraordinarily high percentage of physicians per capita. We had about one physician to 500 inhabitants, whereas in the countries of Europe the proportion was about one to 1,000 or 1,500.

Of the schools that have fallen out a majority are the so-called mediocre and sectarian schools. The entrance requirements have steadily risen in the past decade. The medical student today has a far better average preparation than the student had ten years ago.

Various causes have contributed to this advance. Chief among them was the rating of the schools by the Council on Medical Education of the American Medical Association. We notice that in the year of each of the three successive ratings of this Council, when the schools were divided into classes A plus, A, B and C, the number of schools materially lessened. The report to the Carnegie Foundation for the Advancement of Teaching was another potent factor in this bet-

terment. We are hoping—and we know—that this improvement will go on until our American medical schools are placed upon a higher plane.

The question that concerns this body is—is obstetrics keeping pace with other subjects in the improvement of medical training? If it is not, then it is for organizations such as this to demand that it shall.

I think I am perfectly safe in saying that obstetrics never has been placed upon the same plane as medicine and surgery. We have not considered it surgery, and it is surgery. Moreover we have permitted—we American people have permitted—two classes of obstetrical work to exist in our country, one class which recognizes that obstetrics is major medicine, and that the obstetrician should receive the highest training; the other which is willing to accept a much lower grade of preparation for its practitioners.

Our program today has been planned on the basis of the former conception that obstetrics is a major subject; that it is partly surgery, and that it does require the best training, the most complete equipment, the highest standards.

TEACHING OBSTETRICS : NECESSARY EQUIPMENT

W. W. CHIPMAN, M. D., Montreal

Education counts for something, even as does the air we breathe. It so counts for a great deal. It can, of course, originate or create nothing; cannot make, in the words of Chicago, a ten thousand dollar of a ten dollar boy. But it can make the most, even of the ten dollar boy, make him honest coin—small change for any six-pence.

Considered in a broad biological sense, education is of two kinds, the one consciously acquired, the other unconsciously. The unconscious education is by all odds, and for better or worse, the more essential, the truer. The conscious education, on the other hand, the deliberate, so-many-hours a week pedagogy, teaching in its scholastic sense, is comparatively less important and of much more flimsy stuff.

Nevertheless, far be it from me to decry teaching even in its narrowest application. It has its place, and a large preparatory place it is, in our modern life. And it is with this professional teaching that we who teach have chiefly to deal.

The main concern of the teacher is, no matter what his subject, that his teaching be natural, productive and scientific. Accordingly he should be the living embodiment of the subject which he teaches, even if this subject be a dead language; for so not only does he know his subject, but he thoroughly assimilates it, makes it part and parcel of himself. In this way his whole personality becomes, as it were, articulate. Of necessity he must be a clear thinker, a strong handler of detail so that the greater, the essential things, stand in his mind always high and clear, distinct from, the less. There is accordingly a right proportion, and what is more a sense of humour. And now, if he teaches well, he must have a certain power of expression, a dramatic spirit to inspire his message; and with this, the selective insight to adapt his teaching to the separate individual—to the genius and to the dunce. And still as a teacher he will only half succeed unless in memory he can live again through the questionings and difficulties of his own adolescence. To teach the young (it is impossible to teach the old) he goes back and lives and thinks with the young, becomes one of them in their own special dwelling-place, in their immaturity of consciousness. For so only can close and productive communion between teacher and taught be secured; or, to use Samuel Butler's phrase, so only is the cross between them rendered fertile.

From all this it follows that the good teacher is born, that he cannot be made, and that he is not nearly so numerous as he professes to be. In reality he is the imposing negative of Bernard Shaw's invective that so generally is true—"those who can, do, those who can't, teach." In any community he is, perhaps, the most useful citizen. While he may not create, creators are a small and select body, and stand of course apart; still he may almost re-create the younger generation. He is the university's or the school's greatest asset, for he is the very school itself. He is the chiefest part of any teaching equipment.

One example—the opening lecture in obstetrics at the University of Edinburgh. One sees the amphitheatre with the young, crowded, careless faces, and hears again the clamour of it all. Then quietly the great teacher is ushered in, and steadily waits behind the little desk for the last shuffle of the settling feet, and the final flutter of the opening note-books. He is tall, and the eyes behind the big bowed glasses travel deliberately up and down the rows of faces, demanding silence. And they get it. "Gentlemen," and up comes the long index finger, "we begin today the study of obstetrics. Parturition, the bearing of young, is a natural, a physiological process—identical in the countess and in the cow. You, gentlemen of the back bench, remember this, "the Countess and the Cow." And they do remember it—you may be sure of that.

Now, whom shall our teacher teach? And how shall these, his pupils, be chosen? Heretofore, so far as I know, the choice of a profession, of the life's work, is largely a haphazard business. The boy falls, more or less as dice are thrown from a box, into the church, the law, medicine, or the market-place. How trivial, inconsequent, and sporadic are the efforts made, for the most part, to help the boy in this his great choice; how little is he studied, and the promise of his latent talents adjudged! Usually, I think, the momentous decision is left almost entirely to himself. And he, poor beggar, chooses the best he can from among the unknown mysteries which confront him. In all ignorance he stands before Pandora's box. Or, worse still, an arbitrary parent or impatient guardian impels him from behind with promise of gain or threat of disinherittance, unmindful so often that a wrong choice here is the veritable "tragedy of education." It seems to me they did not so much worse in the so-called Dark Ages, where, as you remember, the boy inherited his trade or profession, followed without question in his father's footsteps.

Each one of us in this place, men and women alike, has endured, has passed through, such an ordeal of indecision. In looking backward how the time of choice comes home to us! We remember the first vague unrest, the questionings of choice here or there, the faint voice of inclination, and the various influences round about; the sharp stroke of chance or change that thwarted our schemes or finally decided us. I know a football scrimmage in November slush and a pleurisy therefrom that robbed our profession of a promising disciple in obstetrics, and made him instead, and quite rightly, a teacher of eugenics. So for the most part of our great decision—the choice of a life-work—was made in this myopic, helpless, haphazard way.

It always seems to me that the wise teacher, especially in the preparatory schools, could be of great service here. He could watch the boy and discover the promise of his gift; he might learn his inclinations and proclivities; study his adaptation to this thing or that; teach the boy in this true way to know something of himself. In this missionary service he might even impound the help of the often-times too busy father or the too social mother. And so, in this natural way, the young candidate might be led to make, naturally and wisely, his life choice. What we can do well we always like, and the converse holds true, to the measure of our gift, that what we like, we do well. And to most of us there is need of such slow, empirical decision. To very few is vouchsafed an imperative, clarion call to certain work. In this material sense upon the young forehead the fate is seldom clearly written.

As many of you know, a step in this direction has already been taken by several of our leading medical schools. Following your example, at McGill it is arranged that students of the first year in medicine work under the eye of a special committee. This personal committee, as it is called, is chosen from their teachers, men of sympathy, tact, and insight. Its chief concern is the weak student or the "waster;" to encourage and advise him, to get to know him "on the human side." At the end of the year if the man shows little interest in, or no aptitude whatever for, the study of medicine, he and his parents are advised to reconsider his choice of a profession. And already results have shown that this step is wise. True it is, that this advice is given a little late, only after the career has been chosen and begun. In consequence it may not be the best of economics, still it is better late than never, and it permits to the boy the test of actual experience in the work,

and may save him from the hideous blunder of a mistaken choice.

So it is that such a method demands from each student a certain measure of adaptation to his chosen work. To this extent it rids our medical schools of the "chronic," the unfit, and it so ensures to the teacher, our chosen teacher, a student-material in some degree worthy of his gift. Thus, in some small way, it provides the second requisite in our necessary equipment for the teaching of obstetrics, namely, the good, adaptive student.

So much then, for the good teacher and the good student whom he teaches. It takes two to make even a bad bargain.

Among those of us who know it is universally admitted that medicine is the most exacting of all professions. From its disciples it demands so much both of theory and of practice, and the one is so useless without the other. It is the whole transaction with life itself, and with death itself, and there is so much to know, and then there is so much to do. In the greatest degree it is both a science and an art.

To qualify in any worthy sense for such a profession is indeed an onerous business; and especially in the clinical or final subjects, where the actual study of medicine begins, the task is heavy for both the teacher and the student. For the latter there is now that first encounter with the great acquaintance of his working life, the patient; the man, and very especially the woman and the child. And it is, you may believe, a most fateful encounter, fraught with so many possibilities. Two has so long been the company of the teacher and the taught that this great third—the patient—makes it at first no company at all.

Good teaching is essential here; for in my opinion this is the most crucial time in the whole under-graduate life. Men oftenest go wrong, in a professional sense, just where they begin this, their craftsmanship. The work is no longer on the bench but at the bedside. These first days of clinical instruction are truly all-important days; for it is in reality a first entrance into a new world, a world of observation, a universe of actual things. Here the man must learn to specially apply his senses, his sight, his hearing, and his touch, for here begins the craft of his profession, the recognition of disease. And these novitiate days are always dark and disappointing, with the new stethoscope in the ears, and the sausage-like plessor finger that elicits only a sausage note. The palpation hand is dumb, elephantine, paralytic. Now, if in this time of sorrow, the student should possess a great or even a good, teacher,

he should give daily thanks to his Maker. For such a teacher will wisely direct him in that straight and only way which leads upward to complete mastery of the craft. He will not only tell him what to see and hear, but how to see and hear, and, what is more important still, will make very sure that he actually has seen and heard. A mistaken perception is so infinitely worse than no perception at all. Only in this way can a good and honest method of observation be acquired, the good method which, like the fear of the Lord, is the beginning of clinical wisdom. Even for the proverbial brick you must have straw; here there is absolute need of clinical material.

And so under his teacher's care, the young clinician goes forward, very slowly at first, training the casual eye and the clumsy hand; and carefully storing away in his memory his prized perceptions till, in some degree at least, he has mastered the art of recognizing diseases. This art, this physical diagnosis, is the staff and scrip of his whole professional pilgrimage. Yes, there is need of good teaching here and need of clinical experience.

To the average practitioner of medicine, "the medical man in the street" the subject of obstetrics is the one, perhaps, of greatest importance. For, while parturition is rightly enough a physiological process, the morbid conditions of our modern life have conspired to make of it almost a pathological calamity. This unfortunately is so true that, provided the vermiform appendix has been removed, it is midwifery that furnishes the greatest number of serious emergencies in general practice. Rest in bed and a milk diet serve innocently well in housemaid's knee or typhoid fever; and hours may even pass without much damage to a broken leg. But assuredly not of these is a second stage floating head, a transverse presentation, a placenta praevia, or a hemorrhage post-partum. How seldom in these cases is there time to read it up, or call a consultant. No, "the obstetrical man in the street" can but invoke the teaching of his old school, and fight it out alone. And what a grim tragedy it sometimes is!

It goes, I think, without saying that the main aim of our medical schools is to provide the greatest good to the greatest number; and this is only another way of saying that their main object is to equip the man well-trained for general practice. For certainly in this way they best serve our present day and generation.

I have never heard it denied that in this general equipment a large place ought in all conscience to be given to obstetrics. And yet, speaking generally of our American schools, this

very training in obstetrics is the weakest place in the whole curriculum. As remarked by Whitridge Williams some three years ago, only sixty of our hundred and twenty medical schools were in this respect pronounced "acceptable" by a tribunal composed of ourselves; whereas a mere six were admittedly possessed of adequate clinical training in this subject. Small wonder is it then if in Canada and the New England States some five hundred women die each year in child-bed; and some five thousand more are therein more or less permanently disabled. And there may be something more than poetry in the boast of the general surgeon that in America it is safer to have one's abdomen opened for any chronic condition than it is to bear a child.

There is no doubt, I think, that obstetrics has not kept pace with medicine and surgery—that in the great forward race it has run a poor third. And yet, if you remember, as between modern surgery and obstetrics, the race was started fair; for if John Hunter is called the "founder of scientific surgery," with equal truth can William be known as the "father of scientific obstetrics;" and William was the elder brother. Surgery, it is true, fell heir to the larger kingdom, and for this very reason, perhaps, has made larger use of its hundred and fifty years. By the very brilliancy of its achievement, especially in our own country, it has rather blinded our vision, our academic vision, as to what is the greatest need in the general practice of our profession. The bold and ambitious scalpel has partially excised our very sense of proportion, till now it seems to me, it were almost better if so-called classic surgery were entirely banished from our under-graduate curriculum. If it is important for us to be in the world at all, the manner and the matter of our entrance are surely the first consideration. And we know, only too well, that the price in motherhood and infancy is still cruel high! The whole problem is, after all, one of fixing values, of securing just proportion.

Already there are signs of the remedy of this. During recent years, not only has there been a re-awakened interest in the science of obstetrics—in ante-natal pathology for both mother and child a whole chapter has been written—but there has been a growing perception of the need of better teaching. The added knowledge of the far-reaching importance of the work itself, and its unborn possibilities, have served but to emphasize the imperfect training in many of our schools; the mortality returns in child-bed pronounce a severe impeachment; and the example of James P. White, of Buffalo, who in America inaugurated clinical teaching of obstetrics, is no longer

the voice of one crying in the wilderness, as this meeting so abundantly testifies. And these are the growing signs of the coming reformation. The work of this Association is a great missionary service, and each one of you who works therein is a true missionary. Inasmuch as you have done it to one of the least of these—these babies. The disciples of the church, the lay disciples, and the disciples of medicine must here work together. You are to secure the best results.

The urgent demand, rightly enough made loudest in the profession itself, is for more practical training, for greater clinical instruction. It is the answering refrain to the far cry of the coming mother and her child; for we who practise medicine, "we have heard the children crying Oh, my brothers." Something has already been done in this respect in our leading hospitals and schools, for at least the tradition of the mere man-midwife has, I think, been finally discarded. But there remains still much to do. The imperative and the absolute need is for a larger and more adequate teaching service in our hospitals and dispensaries. I verily believe that each and every hospital is so much the better in its adequate care of the sick by very reason of its teaching; it is thereby saved from Chauvinism and decay. And, granted such clinical service be vouchsafed, I confidently stand sponsor for any worthy medical school that it is only too ready to employ it. And this provision of clinical service is both the duty and the privilege of the laity to bestow. Each and every lying-in hospital should, if possible, be affiliated with a teaching school, and on its cornerstone should be written: "For the Healing of the Sick, and the Proper Teaching of the Healers of the Sick."

This then, is the third part of the necessary equipment of our teaching schools, namely, adequate clinical facilities.

The requisites of good teaching are accordingly three—the teacher, the student to teach, and the patient on whose immediate behalf he teaches.

Samuel Butler has written: "If I had one thing to say to students before I died (I mean if I had got to die but might tell students one thing first) I should say: 'Don't learn to do, but learn in doing.'"

In this saying there is embodied the whole truth of the whole business. We really only learn by doing, and a student never really knows a thing till he has done it. This is a general principle from the nursery to the fourth dimension; it holds true with everything beneath the sun, for not of the brain only is true knowledge. Even right feeling for ourselves and for each

other, the very virtues, is really only doing things with our feelings.

Of our own profession this is the very truth, and the hospital is, or should be, the student's workshop. Here the student really learns, for here he works. He begins at the beginning, doing things, and it is only in and by, such service that he gains in any sense professional wisdom. His teacher, the Master-workman, directs alike the brain and hand, and bequeaths to both the priceless entail of his experience. Under such careful supervision the pupil applies his knowledge, and so wins skill and method, and a growing confidence in himself. Day is so added unto day of larger responsibilities. In a word he serves a fair apprenticeship, for he learns his trade.

And for obstetrics all this means the lying-in hospital. How else can he be taught, and where else, in Heaven's name, can the young obstetrician learn his business? In no place else can he so righteously be trained, can he in fact be trained at all; and in no other way can the interest of the patient be decently safeguarded. Tell it repeatedly in Gath that there is no power of magic in the medical degree; for if, as under-graduate he be ignorant and untrained, he will as graduate be only something worse. And the school that sends him forth, pronounces him fit to practise, is really the chief accomplice in the murder. There is no argument about it for two and two make four. In teaching obstetrics an adequate hospital service is an absolute requirement; for, without it, both the teacher and the student are together a reproach.

In American obstetrics today this need of clinical facilities is the great deficient. Important as he is, I feel sure we have the teacher, and I know we have the student; but in many of our schools we have not the adequate hospital service. It is our bounden duty, layman and physician alike, to attend to this. No longer must it be possible for any graduate to say that his practical training in obstetrics consisted merely in observing cases at a distance of so many feet; for, useful as such a man might be an observer, he is not an obstetrician.

To quote Butler again, "woe unto the specialist who is not a pretty fair generalist," and certainly it is woe to the obstetrician who has not a general training. In addition the modern obstetrician should have special training in pelvic surgery just as the gynecologist must have knowledge of obstetrics. These two subjects are in the truest sense co-ordinate, and the one is incomplete without the other; there are so many problems common to them both. To teach either of these subjects well,

they should be taught together, or at the very least there should be close and sympathetic reciprocity.

Modern life lays the load still heavier upon us, and so far as we can see the road in obstetrics winds up-hill all the way. With wider vision, as Dr. Newell so forcibly reminds us, there are new problems at every turn. We serve, it is true, our own generation, but as teachers we do much more than that! It is for us to see to it that as teachers we give faithful account of our stewardship.

A great profession this, our profession of medicine, as great as humanity itself. We, its obstetrical disciples, stand always at life's threshold to welcome in the new-born; within our arms, and looking to our strength, mankind enters this world; for ours is the chief care at the beginning. This, Ladies and Gentlemen, is our profession, and our destiny is to serve therein both as graduates and teacher, until for us who long since have crossed our threshold the night cometh!

THE RELATION OF GYNECOLOGICAL SURGERY TO BAD OBSTETRICS

EDWARD REYNOLDS, M. D., Boston

Parturition is perhaps more difficult in the human race than in any other species in the mammalian kingdom, and in consequence much of the subsequent health of women depends on the care which they receive during the process of generation. Thirty years ago it was not an uncommon thing to see women die from mere exhaustion in unrelieved labor, a considerable percentage of all women died from the obstetric infections, and a larger percentage were left invalids after exhaustions and infections which were not severe enough to kill. Thirty years ago almost all women who had borne children suffered from the result of unrepaired tears and other mechanical injuries of labor. The grandmothers of that day were almost all elderly women of whom little capacity for active exertion was expected. Even in the better-cared-for classes they stayed at home the greater part of their time, and when they went out drove because they could not walk. Today the grandmothers of the better-cared-for classes are mostly young women, who walk freely, play golf and tennis, and are active in all the walks of life. This change may, I think, fairly be charged to a corresponding improvement in the practice of obstetrics.

Today the obstetrics of the better-cared-for classes is pretty good. Most women among them escape any very severe degree of the evil results of parturition, and those who find themselves in any degree the worse for labor tend to seek early repair from the gynecologist. We do not today see among the better-cared-for classes those inactive old women who were the rule when we were children. In lesser degree the same improvement is to be observed in all classes in the community; and an increase of this improvement is, I take it, one of the objects of this meeting.

Obstetrics has improved in all ways. The bad obstetrics of today is seldom bad enough to cause death, but its faults are the old faults; and the exhaustion of comparatively unrelieved labor, the minor septic infections, and the mechanical injuries which so often result from labor still contribute their large quota to the gynecologist's practice.

Nothing in the neurasthenias which so often follow the exhaustion of neglected pregnancy and labor is more difficult than the decision to what extent their symptoms are to be at-

tributed to actual local damage, or how much to weakened general condition and lessened power of resistance. Strong, well, and powerful women who have been in good condition through pregnancy need but little care in labor other than the avoidance of infection and the minimization of tears. Even delicate women usually go through carefully attended pregnancies, and expedited labors, without permanent loss of health. The degree of the disturbances of pregnancy and the amount of labor which can be endured without injurious exhaustion varies with the strength of the individual woman, but all women who reach term exhausted and in bad condition tend to have lingering labors; and if their labors are likewise neglected and allowed to become unduly exhausting, they almost inevitably go through long periods of invalidism or depressed health, even though they may seem to escape the direct local lesions which bring them within the domain of gynecologic surgery as such. Such women are, however, usually improved by a subsequent well conducted parturition; indeed nothing in my experience as an obstetrician was more striking than that when such women subsequently became pregnant, were cared for accurately throughout pregnancy, and stimulated and hurried through labor, they usually not only escaped the neurasthenia which had followed former labors, but as a rule started off upon a new phase of greatly improved health. I believe, however, that this fact, which I saw too often to doubt its existence, is probably to be explained on the basis that this apparently purely constitutional ill health is in reality the result of unsatisfactory local conditions; that women in whom the processes of pregnancy and parturition have resulted in utter exhaustion are not able to conduct the processes of restoration of the genital organs to the normal in an efficient manner; and that their continued ill health or neurasthenia is thus in some degree the product of abnormal local conditions, though without definite and grossly recognizable lesions. No other explanation seems to me adequate to account for the improvement in general condition which so generally follows a subsequent, well conducted child-birth. There can certainly be no doubt but that general poor condition adds to both the severity and permanence of the evil effects of local lesions.

Lack of time and space must prevent repeated references to this subject here, but it should be understood, nevertheless, as deserving emphasis in every section and at every stage of what remains to be said.

The modern gynecologist believes that a very large proportion of the cases which he is called upon to treat are the results of past infections, many chronic, inflammatory states which were formerly attributed to other causes being now recognized as secondary results of pre-existent infections.

Infective lesions of obstetric origin may be localized almost anywhere in the genitals, as for instance, in the mucous membranes as an endometritis, or in the walls of the uterus as a metritis simulating subinvolution, but they usually in the end invade the Fallopian tubes and are most important and obstinate in that situation. We have only recently realized that many of the chronic tubes which we see as gynecologists originate in obstetric infections which are so slight as to be frequently unrecognized as infections at the time of their occurrence. These lesser grades of infection may in fact be so mild as to show little evidence of their existence during their acute stage, other than a moderate elevation of temperature with perhaps a little temporary pain or tenderness on one side or the other of the abdomen; and may yet be capable of originating a long continued, low grade inflammation, which eventually results in a ruined tube, chronic ill health, a resort to the gynecologist, and not improbably an abdominal operation. Such infections appear of little consequence at the time, but are sometimes far from trifling in their importance to the patient. If the obstetrician is so far a gynecologist as to be practically familiar with these remote results, the mildness of the initial symptoms is not likely to lead him into a false security. If he is also an expert in pelvic examinations, from the gynecological standpoint, he should be able to make a diagnosis of the existence of an infection in even the extremely mild cases; and he can then do an immense amount to prevent them from ending in chronic inflammation and disastrous remote results. An obstetric attendant who is not in practical touch with gynecological work is, however, too apt to consider these attacks unimportant, and to explain them in ways which are more agreeable to his pride, rather than to admit the presence of an infection. If he is inexperienced in gynecological work he is moreover apt to fail to diagnose them even if he is conscientious enough to try. The acute attack then passes off and no attention is paid to its consequences during the remainder of the convalescence. In the majority of cases the affair receives no further attention until the patient turns up in some gynecologist's office after the lapse of months, or often several years.

A typical history such as she then gives is that she has not felt really well since her last labor, that her monthly periods have been uncomfortable, and that she has from time to time been conscious of transient attacks of abdominal pain and tenderness. She has become nervous and irritable and in general unfitted for the duties of life. All these symptoms have gradually increased, and they are now becoming seriously important. Upon examination one or both tubes are enlarged and inflamed, and this condition is an adequate explanation for all the symptoms of which she complains.

There can be no question that such a case, so presented, is the result of bad obstetrics, but the histories are not always so distinctive. There are many doubtful cases; the relatively great importance of the lesser obstetric infections as a source of chronic disease has only recently become clear, and many persons are still too often misled by a theory which was for a long time widely accepted, and which still has so wide a popular acceptance that it is important to refer to it here.

It was formerly the custom to refer all doubtful cases to a hypothetical gonorrhoeal origin, but this superstition is much less prevalent than it was. The dramatic and striking theory that a man who has once been the subject of a gonorrhoea and has been apparently cured for years, nevertheless habitually remains for long periods capable of infecting the innocent girl whom he subsequently marries, was set forth some twenty-odd years ago on quite high authority in so specious and persuasive a manner as to obtain general acceptance from the profession, partly no doubt from the catchy title of "Marital Gonorrhoea" which was attached to it. From the profession the theory of the enormous prevalence of "Marital Gonorrhoea" spread gradually to sociologists and to the thinking public in general and has worked a great amount of harm. Now that the profession is recovering from its hysteria on this subject, it is time that more correct views should be urged upon such gatherings as this.

It must not be understood that "Marital Gonorrhoea" is wholly a myth; there is no question but that there are exceptional individuals who, though apparently cured of a gonorrhoea and free from symptoms, nevertheless remain sources of contagion for prolonged periods, precisely as is now known to be the case with some individuals who have had typhoid fever; there is, however, absolutely no evidence that such a condition is in any sense common, and there is abundant evidence that it is of exceptional occurrence.

More careful study of case histories has moreover made it clear that a large proportion of the chronic salpingites which were formerly loosely considered gonorrhoea are, in point of fact, obstetric in their origin, and a majority of the remainder are probably referable to a third source of origin, to which a few words may properly be given here. The skin of the vulva and perineum is always surgically unclean with colon bacillus and other intestinal bacteria. In the ordinary course of life these bacteria are mechanically introduced into the vaginae of married women at frequent intervals, and chronic infection of the organs thereby is prevented only by a protective mechanism in the chemical and mechanical reactions of the secretions. These reactions are, however, delicate and easily thrown out of adjustment, and a considerable proportion of the chronic infections probably originate in this sort of accidental contagion by non-specific bacteria.

It is unnecessary to go further into these side subjects, but some reference to these other forms of infection has seemed necessary to a presentation of the now undoubted fact that unrecognized minor obstetric infections are responsible for a great amount of the pelvic ill health of women.

These infections occur with great frequency in the community at large, and are not rare even among the women of the better-cared-for classes, or in the practice of well trained physicians, yet even the minor infections have been well nigh eliminated from surgery. The contrast is a marked one and at once raises the question—How far are we justified in blaming our obstetricians for this difference? At first sight the fault would seem to be theirs. A closer analysis will, however, refer it to an essential difference in the conditions under which the two kinds of work are done.

Infections will become as rare in obstetrics, as they are today in surgery, only when all labors are conducted in specially prepared rooms; and only by specially trained obstetricians, each of whom is moreover surrounded by a corps of assistants, trained to anticipate his every want and to render it practically impossible that his hands should at any time touch anything that has not been previously rendered aseptic. These are the conditions which are provided for surgical operations.

A proposal to surround all or indeed any of the labors of the community by such precautions is, however, at present a mere *reductio ad absurdum*. Except in the rarest of cases, it is economically impossible to furnish such attendance throughout the whole length of labor outside a hospital; and the relegation of all labors to hospitals is impractical in our present

degree of civilization; even if a sufficient supply of such hospitals existed, which they do not. The women of the better classes will not, the wives of the poor cannot leave their homes, and in many cases their children, for the sake of better attendance in labor. In point of fact, it is doubtful whether the amount of ill health of obstetric origin which exists today, is as great an evil as would be involved in other economic ways by such a change of habit. The moderate frequency of the minor obstetric infections which obtains today among the well-to-do classes and in the hands of the best obstetricians is probably the highest degree of the prevention of infection which can reasonably be aimed at.

It is, however, within the power of such an Association as this to exert great influence towards the almost equally important object of the prompt recognition of all infections as such. Many of the minor infections are unquestionably recovered from without lasting ill effects. It is probable that if all of them were recognized as important, and subjected to early and sustained treatment, the proportion which prove harmless would be enormously increased. Today the community believes that every infection is the fault of the obstetrician and it is only among the most intelligent patients that any practitioner dares admit that any complication which occurs is the result of infection. Under these conditions but few physicians will be over ready to diagnose, or treat, doubtful and mild seeming attacks as being important on account of the possibility that they are infectious. When the community has been taught that the conditions under which labor is conducted render the occasional occurrence of the minor infections humanly speaking inevitable; then, the first step towards their early recognition and prompt treatment will have been taken.

The mechanical misfortunes of labor which are of interest to the gynecologist are the tears and displacements, and the combinations of these lesions, especially if they are complicated by subinvolution. There are two common tears. Tears of the cervix tend to heal spontaneously if the labor was thoroughly aseptic. It is only in the presence of some degree of infection that they result in the slow healing and the formation of cicatricial tissue which in the end brings their victims to the gynecologist. Tears of the perineum remain open and heal over in this condition unless they are repaired by suture. This tear is of almost invariable occurrence, some degree of it being produced in practically every labor, and one of the greatest obstetric advances of modern times is that the recog-

nition of this fact has led to its habitual primary repair. It was formerly believed that all tears were the fault of the obstetrician and as an almost inevitable consequence of this injustice only the worst of them were admitted and sutured, the remainder of them went unrepaired. The community now knows that some degree of tear is inevitable, the obstetrician never hesitates to look for them, and all but the most trifling are promptly repaired.

It is not, however, generally understood that primary repair is seldom completely satisfactory even in the most skilful hands. The community as a whole still believes that any imperfections in the results of primary repair are necessarily the fault of the obstetrician. As a consequence of this injustice few obstetricians examine the results of their repairs unless in the process of the removal of sutures and few admit any imperfection in the results even when they are bad. In skilful hands primary repair yields, in the great majority of all cases, results which are of great value at first since they postpone trouble for many years, but which are often not sufficiently good to afford first-rate support after the muscles have been repeatedly overstretched in the course of subsequent labors or after they have lost their resiliency in the process of the change of life. Every woman who has been torn should be examined after the lapse of some months from her delivery and should then be honestly informed as to how good the results have been, and what she may probably expect from them in the long run. So soon as the community thoroughly understands that the permanence of the results of primary repair depends quite as much upon conditions which are beyond the control of the obstetrician as upon his personal skill, that variation is to be expected and provided for; so soon such examinations will become the rule—then cases in which the muscles are yielding and stretching will be cared for early and when minor means are sufficient, and an immense amount of ill health will thus be saved. The gynecologist can do the community no greater service than to spread broadcast among women the information that women who go into the change of life with their organs in good condition tend to pass through that process with little or no disturbance of health and to be thereafter in better health than they have known before rather than in worse; on the other hand, those who enter upon the menopause with their pelvic organs in disturbed and damaged condition inevitably pass through a period of nervous ill health which unfortunately then tends to persist in greater or less degree during a large part of the remainder of life. All women

who have borne children should be looked over at the end of the child-bearing period in the early forties and any abnormalities then found should be corrected for the sake of their health during the remainder of life. Originally it was the office of the dentist to pull teeth, now it is his business to preserve them. Women approaching the menopause should consult the gynecologist in precisely the same spirit in which we have all learned to go to our dentist throughout life.

Displacements of the uterus of puerperal origin are practically always complicated by subinvolution of the uterus, that is, its failure to return to a normally small size or to a normally firm consistency as a result either of infection or of mismanagement of the convalescence. The prevention of subinvolution rests on the observance of that extreme asepsis which is perhaps the most important of all items in obstetric practice and on that adequate care of the convalescence which has now to be spoken of from the gynecologist's point of view. All women desire to get up early both from the irksomeness of remaining in bed and also frequently as a matter of pride. Many physicians yield to this desire of the patient against their own judgment and for the sake of pleasing them. From time to time there have been well known obstetricians who have advocated getting the patient up early, but it has usually been remarked that the patients of these men were very apt to become in excessive number the patients of other gynecologists in the vicinity, and I know of no opinion in favor of this practice now.

I have noticed with much interest that the wives of gynecologists and, indeed even the wives of obstetricians who are not gynecologists, always stay in bed at least three weeks. They often stay in bed longer, and they are always very restricted in their lives for from three to four weeks afterwards. No trained expert whom I have seen under these circumstances has seemed to have any doubt but that *his* wife must pursue this regimen, no matter how well she feels, or whether she likes it or not. The stronger the muscular system of a given woman the more likelihood of her escaping the evil results of getting up too early after delivery, but it is not a desirable thing for the strongest woman and the reasons for this become apparent when we consider the details of what the organs go through in the process of repair after child-birth. The uterus immediately after delivery weighs upwards of two pounds and is very soft and flaccid, easily assuming any shape into which it is pressed. The non-pregnant uterus weighs but two or three ounces and is normally so firm as to be susceptible of

but slight change of shape. This great reduction of weight and change of consistency is not thoroughly completed under eight to twelve weeks, but proceeds so much more rapidly at first that by the end of three or four weeks the uterus is usually of not more than twice its normal weight. The involution of the uterus is, however, not the whole process. The supports by which it is held in place also elongate and soften during pregnancy as greatly as does the uterus itself. They are left after delivery long, loose, and flaccid like the uterus, and their involution occupies about the same time. If a woman who has not been delivered more than ten days or a fortnight is allowed to return to active life in the erect position with her uterus still many times heavier than normal, still soft and capable of almost any change of shape, and held in position only by supports which are still long, soft, and weak, arrest of involution and a high percentage of displacements is the necessary mechanical result. Properly long duration of stay in bed and the resumption of the recumbent position at frequent, though decreasing intervals after the patient begins to get up helps involution and tends to prevent the occurrence of displacements.

One other point should be noted — displacements which have once been acquired are rarely permanently relieved without operation except by active treatment of them immediately after the termination of a subsequent pregnancy. If treatment is undertaken at that time the vast majority of them can be permanently cured by minor treatment. A uterus which has once been displaced always tends to resume its displaced position and if the surrounding supports are allowed to return to their normal degree of contraction and firmness while the uterus is still displaced the woman has a return to her original condition of established displacement. If, on the other hand, the uterus is held at this time in normal position, until the supports have returned to normal contraction and firmness with the uterus in this position, the woman will start again with her uterus firmly held in normal position and with but little liability to the recurrence of a displacement. This fact is but little known in practice. It is, however, not theory, but a process which I have observed again and again and which I have but rarely known to fail.

Any woman who has been the subject of a displacement should have treatment for the displacement undertaken at about the tenth day after delivery. The uterus should be placed in the position of anteversion and a very long, though if necessary narrow, pessary should be arranged to hold it

there. The vagina is of course at this time capacious and is in the process of involution, hence a pessary which is as large as is necessary at first, will soon become too large, and it is necessary to reduce the size of the pessary at frequent intervals, at first as often as once a week; as involution progresses it is, however, slower and the pessary will need less frequent changes. If the uterus is held in anteversion until the end of the first six to eight weeks and in normal position for a couple of weeks thereafter there will be but few cases of recurrence of the displacement, and this is about the only time in a woman's life when an established displacement can be permanently cured by the use of a pessary.*

Thirty years ago the death rate of obstetrics was enormous—until that was reduced its morbidity was a comparatively unimportant matter. Today the death rate of obstetrics is low, and so far as we can at present see, as low as it is likely to become, but the amount of ill health from obstetric causes throughout the community is still large, and most of it is preventable and unnecessary. The improvement in this respect which must be aimed for, and should be attained, is rendered difficult by the fact that these evil results for the most part appear long after the confinement, and even though they may be directly due to it, are too often unconnected with it in the mind of the physician. To this evil the system of teaching these subjects and of specialization in them which is somewhat widely prevalent in America largely contributes.

Everywhere else in the world obstetrics and gynecology are regarded as one subject, are so taught to students, and to a great extent are practiced by the same men.

Many communities in America are served by gynecologists who have never known anything about obstetrics and by obstetricians who know nothing of gynecology. In these communities students are consequently taught their gynecology by men who know nothing of the obstetric origin which underlies so much of it, and are taught obstetrics by men who rarely see a case after the woman is up and about from childbirth. Can we expect that men who are the products of such teaching will conduct the labors of their patients with much regard for the happiness or health of their after lives?

* Even if there has been a laceration of the perineum and primary repair it is usually possible by this time to introduce the necessary pessary without disturbing the stitches.

THE NEED OF HOSPITALS FOR MATERNITY SURGICAL CASES

EDWARD P. DAVIS, M. D., Philadelphia, Pa.

Nothing is more characteristic of modern medical science than the development of the hospital. In the thickly settled parts of this country well equipped hospitals are so numerous that with good roads and motor ambulances the sick can be safely and rapidly transported to hospital in all serious cases.

In obstetrics less use is made of hospitals than in other branches of medicine, and with great loss to the community and increase in suffering and mortality.

The objections commonly urged by patients and their friends when confinement in hospital is proposed, come broadly under two heads: First, a practical consideration; second, a matter of sentiment.

Practically, the transfer of the mother to hospital for confinement temporarily breaks up the family. If the husband is a periodic drunkard he will use this opportunity for his customary indulgence. The children will be scattered, or the lodging may be given up, and the mother returns to her home from the hospital to find the home in a state of confusion. Hence the plea which women among the poorer classes so often make—that they cannot leave home to enter hospitals.

Among those of moderate circumstances who are neither poor nor rich, there is great need of moderate-priced rooms in hospitals for confinement cases. From \$10 to \$15 per week is often all that such persons can pay for the expenses of a confinement, excepting the doctor's fee. Many of our hospitals have considerable ward space, and private rooms at from \$20 to \$50 per week. Those who need moderate-priced rooms are those most deserving of hospital care, for they are among the reliable, industrious mass of population who make the very backbone of the nation.

Social service work should meet the objection that the admission of the mother to hospital for confinement will disorganize the home. We look to social service for the temporary care of the home, for the children, for oversight of the husband if necessary, and to keep together this unit of population until the mother can resume her place in the home. Already the need for moderate-priced rooms for confinement cases is being appreciated, and in the newer maternity hospitals such are provided.

The sentimental objection to going to hospital for confinement also centres about the ideal of home. A patient accustomed to every comfort, but who has great physical disabilities, recently urged that she could not think of having her child born in a hospital! To her mind the idea seems tinged with the flavor of poverty, or possibly implied disgrace. When we remember the origin of hospitals, that they have developed where centres of religious evolution and civilization have reached their highest development, and that the hospital is perhaps the most finished product of modern civilization, we see that this objection is founded upon sentiment, and without reason.

Among ignorant persons there is objection to going to hospital through fear of surgical operations and because distorted ideas concerning hospitals are instilled into the mind of the poor by midwives and unworthy physicians, to prevent the loss of personal gain through practice.

Our experience up to the present time indicates that two classes of patients without doubt should enter the hospital for confinement: For a first confinement there can be no question of the relative safety for mother and child of confinement in hospital and in a private house. The mother's subsequent health depends largely upon the management of this first confinement. Surgical aid is required in a much larger percentage of cases than in subsequent confinements, and perfect recovery is only possible with good surgical care. The life and health of the child, and especially the integrity of the nervous system, are more in danger in the first confinement, and hence the greater necessity for skilled attention.

Again, those patients who are abnormal in size, or in physical condition, urgently require hospital care. This may become necessary during the early months of pregnancy or may be required during the entire period of gestation. Ballantyne has well urged the necessity for pre-maternity hospitals where pregnant women suffering from various complications may receive adequate and skilled attention. The lives and health of mother and child may frequently be saved by such care.

In case of deformity and lack of development, the hospital has robbed parturition of its terrors, and surgery has made possible the safe confinement of the mother, with a mortality rate but little greater than that of natural birth, and an infant death-rate which is practically nothing. Even the poor and most ignorant appreciate this aspect of the case. As witness, a postcard sent by Mrs. Flaherty to a friend: Mrs. Flaherty was unfortunately deformed and had lost several children in her tenement home in long and painful and miserable confine-

ment. She finally sought the hospital and was safely delivered of a vigorous infant by Caesarean section. Eager that a friend of hers should share its benefits, she requested the nurse to write a postcard, with the following communication:

"Mary Dear:—

"Come in. It's a fine way they have here. They put something over the nose and when you wake up your baby is squalling beside you, and your mouth tastes like a paint-shop for two or three days."

Observation shows that confinement is most safe and successful between the years of 17 and 25; that prior and after that period the complications of parturition increase. The mother of a large family should receive special attention in her last confinements, for the forces of nature have become weakened and there is often excessive development in the child. Many of the most distressing fatalities among the poor occur in these patients who try to remain at home, but who sadly need hospital care.

It is commonly believed that the work of Pasteur and Lister, the introduction of antisepsis and asepsis in surgical practice, and the application of modern methods to obstetrics, have virtually stamped out puerperal fever. This is true of hospitals only. Today no well appointed and properly managed maternity hospital has a death-rate from puerperal fever of more than 1 per cent; but the death-rate outside of hospitals is much greater than this, and cannot be ascertained. In spite of the efforts of authorities to secure accurate death-rates, cases of puerperal fever dying in the hands of ignorant and unscrupulous practitioners are reported under other names, and often pass undetected. Until we have a uniform law requiring notification of puerperal fever, as of smallpox, scarlet fever, or other infectious diseases, the exact frequency of puerperal fever outside of hospital will not be ascertained. There is every reason to believe that outside of hospitals the mortality from puerperal fever has not materially diminished for a number of years. This is especially true among the poor and ignorant, among whom ignorant and dirty midwives and physicians infect large numbers of patients. Some idea of this may be obtained by Roth's recent paper in the *British Medical Journal*, July 5, 1913, in which he states that in England and Wales over 3,000 women die every year from puerperal septic disease and the accidents of childbirth. The septic mortality among infants is also considerable and cannot be accurately ascertained outside of hospital. Some idea of the general mortality among infants is given by Roth's further statement that during the first year

of life, in one year in England and Wales 99,430 infants died, and that in addition there were 19,000 stillbirths.

Surgical science addresses itself especially to preventing death, suffering, and ill health from septic infection and hemorrhage.

Writing upon the necessity of recognizing midwifery as a branch of surgery, Bonney in the *British Medical Journal*, March 15, 1913, states that in England and Wales, one mother in every 228 died during a period of nine years—from 1897 to 1906—these deaths occurring primarily from puerperal septic infection and from hemorrhage. Puerperal fever alone in the year 1909, caused the death of one mother in every 609. The complete return of the mother to health depends largely upon the surgical repair of injuries received during parturition. In 543 patients confined for the first time, but 40 per cent were found to be in normal condition, while convalescent, by Solomons in the *Rotunda Hospital* in Dublin, a well-known institution (*Journal of Obstetrics and Gynecology of the British Empire*, July, 1913). As these patients were accurately examined, the statement must be received as a conservative one. Outside of hospitals an accurate diagnosis concerning the condition of the mother after confinement is rarely made.

If we turn to the morbidity among infants, we have in ophthalmia neonatorum, or the blindness which results from infection in the eyes of the newborn, a striking example.

Hörder (*Zentralblatt f. Gynäkologie*, No. 45, 1912) in thirty German cities found in the asylums for the blind $12\frac{1}{3}$ per cent of all cases originating in ophthalmia neonatorum, or one-eighth of the entire number.

The regulations for midwives and physicians in Germany are stringent, and if this is true under such a medical system, one can readily imagine a worse state of affairs under other conditions. In over 3,000 births in an American city, Tallant (*American Journal of Obstetrics*, November, 1912) found that one per cent developed ophthalmia neonatorum. The contrast between one-eighth of the patients in asylums for the blind who became blind through infection in infancy, and 1,000 cases of infants delivered in an American hospital without a single serious injury to the eye, may illustrate what can be done with hospital care.

It may be interesting to raise the question, What percentage or what proportion of women in confinement will require surgical assistance? I may answer this by the experience of a year in a small maternity department of a large city hospital which has a considerable out-patient service, and to which are

brought by ambulance at all hours of the day or night not only normal cases but those which have been badly treated by midwives and physicians, and those which develop especial difficulties. In the recent year, 25 per cent of these patients required surgical assistance to save the lives of mother and child. Among the operations three-fifths were those which were distinctly major or important surgical procedures. It may be interesting to know that among the patients who required surgical methods there was no death from puerperal septic infection, and that among the cases requiring major surgical operations there was no death from any cause. No child in good condition when the mother was admitted, died. The entire septic mortality among all mothers in emergency and other cases was .5 of 1 per cent.

Increased efficiency in the oversight and licensing of physicians and midwives is gradually weeding out the ignorant and unscrupulous, and thus lessening the mortality and morbidity of parturition among the poor. Unfortunately, there will always remain those men without surgical training and experience who, because a case is one of confinement, will attempt surgical procedures for which they are incompetent. I may illustrate this by the case of a healthy young woman, living some eighteen miles from town, who, in her first confinement was under the care of a general practitioner of very limited obstetric experience. As delay occurred, with three successive administrations of ether, during two nights and a day, he attempted upon this patient three obstetric operations unsuccessfully. The patient was then placed upon a cot and brought in a railway train to hospital. Her life was saved only by a major operation which deprived her of the power of subsequently bearing children.

I recall also the case of a patient who had been sadly maltreated, whose confinement was ended in hospital by a major operation, mother and child recovering, but the child remaining permanently blind in one eye from the violence to which the mother had been subjected.

May I place before you my plea for hospital care for cases of confinement requiring unusual attention, by the following concrete example?

A few weeks ago I was summoned to attend in hospital a previously sound young married woman, already the mother of a healthy little girl. During the last weeks of the present pregnancy she had been under the care of a general practitioner without especial experience, and she had shown signs of a very dangerous condition which threatened her life and that of her

child from hemorrhage. For more than two weeks dangerous symptoms were disregarded, and temporary improvement was taken as evidence of safety. Finally, when hemorrhage became alarming, and death threatened, the mother was hastily sent to the hospital. On admission, her child was dead, and her condition such that nothing for the moment could be done except to use stimulants with the hope that she might rally. With that prophetic insight which sometimes comes in the presence of death, she appreciated her danger and implored us to save her life for her little child and for her husband, a sailor in the United States Navy, absent on a battleship in Mexican waters. When slight improvement occurred it was possible to bring about confinement without a serious procedure and without pain to the mother. Then, under stimulation the feeble flame of life was fanned into a bright blaze for a brief hour, and then went out forever.

Is this the reward which the civilization of the Republic has to offer to this sailor when he returns on furlough to find his wife and infant dead, and to be greeted with the lonely, pitiful life of a motherless child?

DISCUSSION

Dr. J. Whitridge Williams, Baltimore: I do not see how anyone in this audience can have listened to these three papers and then leave this meeting with the idea that proper obstetrics can be done by midwives. It does not seem possible that any one could assume that an ignorant woman after four months training could be fitted to take obstetrical cases and make good along anything like the lines we have heard outlined. One aim of this program was to place before the intelligent women in the country, the problems of obstetrics; and if after hearing these addresses you go away and advocate putting the lives of the women into the hands of midwives, it shows that you think very little of your fellow sisters.

That is one thing. The other thing is—as Dr. Chipman told you—that facilities for teaching obstetrics in this country are lamentably poor. I have elaborated on that subject myself, and shall not repeat it here; but I will say that as far as I know at the present time there are only three lying-in hospitals in the country which are what they should be physically—I am not saying anything about the manner in which they are administered. Two are in New York City, the third in Pittsburgh and not yet opened; but with these exceptions,

I do not know of others that are suitably equipped for doing the work they have to do.

I feel very strongly about the subject. We are extremely backward in this matter, and I feel the aid must come from the women. The great advantage of these meetings is that it gives us an opportunity to put before the intelligent women of the country the deficiencies in our system of medical education. But you must remember that you have solved only a part of the problem when you have provided first class hospital buildings; you have then to provide the money to run them and what is more important still—get the men and women to run them. The first great need as Dr. Chipman said is for scientific investigators to carry out obstetric investigation. We have too long been parasites upon the rest of the world and instead of being leaders in obstetric science we are on the whole the most conspicuous learners from other nations.

Dr. Geo. W. Kosmak, New York Lying-In Hospital: It is a great privilege to listen to such scholarly addresses as we have had presented to us today. There is so much to be brought forward in a discussion of this subject that the time allotted will hardly permit a fair consideration of the matter.

There are one or two points, however, that have been brought out to which I would like to refer briefly. Dr. Reynolds brought up the question of perineal lacerations or "tears," so-called, as a result of childbirth. An unfortunate idea has grown up in the minds of the laity that tears and wounds are the essential accompaniment of labor or that they are due to the carelessness of the physicians. The individual anatomical peculiarities in each case play an important part in this subject, but I think that the physician who tries to save the perineum at the risk of prolonging the labor and losing the baby is to be regarded as incompetent. A tear is certainly better in an instance of this kind than a dead baby and I am very glad that Dr. Reynolds paid particular attention to this subject.

A most important point in Dr. Davis' paper is his reference to the lack of proper maternity hospital care for patients of moderate means. In a rather extensive investigation of the subject in New York City, which contains over five million inhabitants, I was much surprised that all the hospitals of Greater New York afforded less than a hundred beds at prices including and below fifteen dollars. This is a most deplorable situation and something which requires our attention as much as any other phase of the subject under discussion. Just think: here is a city of five million inhabitants and more, which

affords less than a hundred beds to which the worthy middle class can be sent and proper care can be given them. The very rich and the very poor are amply cared for, the very poor certainly get better obstetrical treatment than the people of moderate means. The clerk who earns about \$25.00 a week is unable to afford his wife the care which the ordinary street cleaner's wife can get in our modern hospital system. This situation is extremely unfortunate and our Association should draw particular attention in their deliberations to this matter.

The question of the practical teaching of obstetrics is a most important one. As Dr. Williams has repeatedly stated, practical education in obstetrics is in a most deplorable condition and I think we owe to him more than to any one else in America the fact that the attention of the profession has been called to the situation. Unfortunately obstetrics has been regarded by most medical faculties as a sort of side issue and I think this is more or less attributable to the fact that we allow a special class of licensed persons to practice one of the most important phases of medicine. In this connection I do not want to enlarge upon the subject of midwives, I merely want to reiterate what I have said at previous meetings; namely, that we are allowing a class of people to practice an important branch of medicine with a much too brief and unsatisfactory training. We have in this country an organized municipal school for the practical training of midwives which is situated in New York City, and which is doing excellent work, but I think we should wait for the practical demonstration of what this and similar schools can do before we advocate in wholesale fashion the admittance to the practice of an important branch of medicine of this class of people.

We have modelled our ideas on the subject of midwives on those of foreign countries. If we only knew how many deplorable facts are brought out in the practice of midwifery in foreign countries, I do not believe we would be so enthusiastic on this subject as we are. In my own limited travels I found the profession abroad as a whole rather dissatisfied with the practice of midwives; that they have been gradually increasing the length of the period of study from three months and six months to one year and two years in the large institutions, and not being satisfied with that they require midwives to come back at intervals for post-graduate instruction. We have not attempted anything like that and we are extending our laws to permit people to practice an important branch of medicine without a training that warrants their doing so.

Dr. Sherwood: Here is a very important question. Will one of the experts say whether he believes it is desirable or not to train and license midwives until physicians are able to properly attend themselves to confinements among the poor. Also does the fact that our foreigners frequently refuse to permit men to attend them, and there are not sufficient hospitals for such cases, justify midwives at the present time? Will one of our experts volunteer? Dr Chipman says that they have not that trouble in Montreal. Dr. Davis, will you answer?

Dr. E. P. Davis, Philadelphia: It is very interesting to hear the opinions and experiences of our friends in Boston concerning midwives. Boston is commonly said to be not a locality but a "state of mind." Pennsylvania is a "state of mines," and this fact has an important influence on our requirements in matters of medicine. In some parts of the state we have communities of Slavs in mining regions, remote from large towns, and no good hospital of easy access. These people bring their midwives with them from Europe and insist upon employing them. The authorities of the state cannot forbid these midwives to practise, but our State Board is doing everything in its power to regulate them, to examine their credentials and to correct abuses. In the cities and large towns of the state and its thickly settled portions there is no use for the midwife, and the sooner she goes the better. With good roads, motor cars and motor ambulances and hospitals throughout the state, efficient aid can be given to maternity cases without submitting to the midwife abuse.

Dr. Sherwood: May I add one word. Pennsylvania being a "state of mines" and therefore a rich state it seems to me it might (as well as any other sovereign and rich state) sometime meet this problem by a state sense of responsibility to its women citizens and devise some way in which to offer to the women in any community, however remote, adequate care in confinement. We have had a hint in our proceedings yesterday, and in some of our papers during this conference, that state responsibility might reasonably be expressed in the expenditure of money for hospitals and for adequate care for women in confinement.

Dr. Edward Reynolds, Boston: Having had in the past fourteen years of experience in the service of the Boston Lying-in Hospital and Harvard Medical School, and in the slums of Boston and in the supervision of 2,500 to 3,000 births per year

in the poorest population and among the most ignorant of our foreign population—labors conducted by students and among the worst doctors there were in Boston, and in constant touch with midwives, it has been my experience, in the first place, that the midwife is an unmitigated evil, that there is no practice among the most ignorant doctors which is so destructive to the community as that of the midwife, and I personally have seen no better results from the imported continental midwives than from the self-taught midwives of our slums. I think they are equally dirty, and, if anything, more destructive, from the fact that they have a little knowledge and are willing to take responsibilities they are not qualified for, while the untrained midwife is afraid.

As regards the statement made implying that interference is necessarily an evil, I would say that I have seen infinitely more damage to women from the absence of forceps, from unduly long labor, from that pernicious doctrine that nature is safe and not dangerous in obstetrics, than from all other causes combined. I feel free to say it since I am not an obstetrician.

Dr. H. W. N. Bennett, Manchester, N. H.: At no session since our Committee has been organized have the points on the midwife question been driven home as they have this afternoon. I think we are in error in one particular. Some investigations have shown an alarming state of affairs in the textile cities where the doctors have been in attendance at deliveries, but it is not safe to draw the conclusion that because those things have happened the only remedy is to rush to the midwife and to training the midwife. That would be going from the "frying-pan into the fire." There is no question but that the man in the country districts, in the poorer sections of our large cities, and in our textile cities, practising obstetrics today has not the training he needs, and which the community should demand, but he is in a far better position to bring him up to the level we want than is the midwife who has no preliminary education, who is not a native of this country, and who has ideas which we never can drive out.

Starting with the care of the infant, all who have been engaged in this work have found out that the foreign mother, the foreign population, the foreign family, are much easier to reach than we were willing to concede before we started systematically to get their point of view, and their sympathy. The moment they realize we are working for them, they are willing to cooperate.

The same thing will be true of the doctors. Many a young doctor who has come out of the medical school and gone through the hospital and given his time to maternity work in the hospital, is ready to go into the field and specialize in obstetrics if he can get the patronage. He does not get it. He is willing to take it up in conjunction with gynecological work—glad to do it, but what is the result? The midwife organizes her work just as the labor leader does.

Another important factor that has been overlooked, is the standard of the State in its requirements for the practice of medicine. They are altogether too low, but no one in this State or in any other State I know of, will make the effort necessary to raise the standard. Different organizations talk it over, but there is no progress; everybody simply passes the burden along to somebody else.

One of the speakers this morning wanted to know what the General Federation of Women's Clubs could do. It seems to me that if they would tackle this midwife question they could do more good than in any other field of activity.

Dr. Louis Burckhardt, Indianapolis: It has been said that things that come from foreign countries need not be adopted immediately in this country. I would like to express it differently. You cannot put the works of the Swiss watch into an Elgin watch without stopping the movement. In Germany and Italy we have laws to control the work of the midwife who does the work up to the point when the immediate assistance of the physician is demanded. And it is not decided by the whim of the midwife but is absolutely laid down by law; and if that midwife neglects to call the physician in time, then she would lose her license. If a midwife has a case of puerperal fever, she is barred from the practice of her profession for four weeks, and then they control even her finger nails in making bacteriological examinations.

I will ask you if there are any particular laws in this country, and from the way the laws are administered, where we could carry out any such regulations even though we had them?—It is impossible; it does not fit into the mechanism of this country.

Dr. Davis: As regards help for the midwife situation, we have found the greatest aid in the visiting nurse, and I must pay a tribute to the visiting nurses of the Jefferson Maternity. Last year two of them made between 4,000 and 5,000 calls throughout the city, averaging twelve a day—making friends

wherever they go; they are welcomed, given gifts of food, sometimes carfare—making friends for science and for humanity, and they help very much in medical education, because we have a teaching maternity and the medical students visit patients in their homes; and the trained nurses teach the medical students as the presence of any good woman always teaches a man.

I have been much interested in the medical student as an attendant upon the poor, and we have yet to find any well authenticated instance of neglect or improper treatment of the poor; on the contrary, we have people who in rapid confinement will accept the services of students and nurses and out-patient service rather than that of the careless or incompetent general practitioner of medicine.

And in the last word I say I want to ask for justice to the general practitioner of medicine. He takes obstetrics practice because he has to take everything to make a living; he does the best he can, and it is not fair that the responsibilities of obstetric emergency should be thrust upon him. And those men would be glad to send patients to the hospital frequently if there was a hospital for them, and the sentiment of the community would acquit the physician of inability or lack of enterprise in attending cases.

I am sure this meeting in its appearance and the interest displayed is a splendid demonstration of the better things that are coming to this generation.

REPORTS

Presented at Round Table Conference, held Saturday,
November 14, 1914

NEW ENGLAND SUB-COMMITTEE ON OBSTETRICS

JAMES LINCOLN HUNTINGTON, M. D., Boston, Secretary

VERMONT

(a) Laws Regulating the Midwife in Vermont: In the application of chapter, under Section 5372, Public Statutes of Vermont, 1906, a reference is made to Midwifery, which implies that the midwife is exempt from requirements for admission to practice medicine, to practice midwifery in the locality in which she resides. Section 3293 requires physician or midwife to fill out and file a certificate of specified form. I find no other reference made to the midwife.

(b) The Activity of the Midwife in Vermont: I have yet to hear of a woman practicing midwifery in Vermont, there are doubtless many women who assist at confinements and among the foreign population there is often found one woman who makes a practice of caring for a woman in labor until the physician arrives, doubtless to insure the patient that she shall be sure of the services of one experienced, in case the physician should arrive after the birth of the child, but I believe it is very unusual that the services of a physician are not desired.

(c) Clinical obstetrics is taught at the University of Vermont to the men of the fourth-year class at the maternity ward of our hospital, at the Home for Friendless Women and in the out-door or dispensary service. Two students are assigned to each case; they do a complete antepartum examination under the supervision of an instructor who teaches obstetrics at the College of Medicine; careful records are taken and preserved, frequent antepartum visits are made by the students assigned to the case to take blood pressure, to analyze urine and to observe the progress of gestation. At the onset of labor the two students are notified and they assist at the delivery and make daily postpartum visits until the patient is discharged, which is usually on the fourteenth day following delivery, and they make a complete physical examination of the patient at this time.

In the out-door service the patient is delivered by a student who has had the care of patients in the hospital. He is assisted

by a student who has been present at cases in the hospital and in the event of an abnormality the instructor is called.

The hospital service and dispensary service are free to any patient while the patient at the Home for Friendless receives only medical services free. The maternity ward has twelve beds to be used for clinical teaching only; the home provides about fifty patients each college year and the dispensary service provides for as many patients as care to take advantage of the service.

Pregnancy Clinic: Pregnant patients are cared for in the out-door service in the gynecology department at the free dispensary. They apply for treatment at the dispensary where an antepartum examination is made, they are instructed to return with a specimen of urine for analysis every four weeks, until the seventh month, when they are instructed to return every two weeks.

Obstetrical operations are performed at the hospital in the amphitheater where all students are desired.

OLIVER N. EASTMAN, M. D.

Burlington, Vt.

* MASSACHUSETTS

Pregnancy Clinic of the Boston Lying-In Hospital

New applicants for treatment:	
Referred from the Hospital.....	561
Referred from the Out-patient Department.....	1,079
Referred for consultation from other institutions.....	12
	<hr/> 1,652
Subsequent visits	1,869
First visits of babies	16
Subsequent visits	3
	<hr/>
Total number of visits.....	3,540
Total number of new patients.....	1,652
Remaining under observation from previous year.....	220
	<hr/> 1,881
Subsequently delivered in the Hospital.....	430
Subsequently delivered in the Out-patient Department...	947
Not pregnant	3
Removed from district	4
Discharged to private physicians	15
Ceased attendance or otherwise provided for.....	202
Consultations from other institutions	12
Remaining under observation	268
	<hr/> 1,881

* See also reports of Committee on Infant Social Service. Women's Municipal League, Boston, Maverick Dispensary, etc., in Reports of Affiliated Societies.

Of the 1,377 women under the care of the Pregnancy Clinic who were delivered in the Hospital and Out-Patient Department, 385 presented the following complications of pregnancy:

Miscarriage	2
Albuminuria without other signs of toxæmia	108
Elevated blood pressure without other signs of toxæmia	92
Showing definite symptoms of toxæmia	62
Contracted pelves of varying degrees	72
Heart lesions	22
Hyperthyroidism	3
Chronic nephritis	1
Umbilical hernia	1
Chorea	1
Emphysema	1
Acute hydramnios	3
Ruptured varicose vein	1
Diabetes	1
Pyelitis	5
Phlebitis	1
Syphilis	2
Gonorrhea	4
Endometritis	1
Phthisis	1
Erosion of labia	1
	<hr/>
	385

Of the 1,377 women from the Pregnancy Clinic delivered by the Hospital or Out-Patient Department there were

Discharged well	1,311
Discharged to private physicians	6
Discharged to other institutions	2
Discharged dead	6
Remaining under care	52
	<hr/>
	1,377

Of the six women who died only one died of eclampsia, and she had made only one visit to the clinic, six weeks before her seizure.

A chief object of the Pregnancy Clinic is not alone the prevention, early detection, and amelioration of the various complications of pregnancy, but to so far promote maternal general good health that mothers may go to full term, bear living children, and suckle them at least during their early months. In all urban communities appallingly large numbers of infants die before birth, soon after premature birth, and even after full-term delivery when poorly vitalized and artificially fed. To diminish this great waste of infantile life is the great present effort of pregnancy clinics and lying-in charities. In this connection it is interesting to note that the rate of still-

births per thousand living births for the Pregnancy Clinic in 1913 is 28.9; that for all Boston being 39.8 and for the Borough of Manhattan 48.6.

JAMES LINCOLN HUNTINGTON, M. D.

**DEPARTMENT OF OBSTETRICS, BOSTON UNIVERSITY SCHOOL OF
MEDICINE**

**Prenatal and Postnatal Work of the Massachusetts Homeopathic
Hospital**

The didactic teaching in obstetrics at Boston University School of Medicine extends over two full years with quizzes and frequent demonstrations during the second and third years, and during the fourth year actual clinical applications are given.

During the second year's course, besides the didactic work of the full year, the student attends the daily maternity clinic at the Out-Patient Department of the Massachusetts Homeopathic Hospital in which examinations and diagnoses are made and all diseases of pregnancy are studied. In addition to this, each student is required to attend the examination of patients at the hospital. Thorough demonstration is given in the hygiene and management of pregnancy, palpation, pelvimetry and actual bed-side teaching of the puerperium and conditions pertaining to the new-born child.

During this year there is opportunity for individual observation and assistance in delivery in the outside district work.

The second year's work includes a full didactic course upon pathological and operative obstetrics. In addition, actual practice in the various operations by the student is required, with clinical demonstrations and full discussion of cases, and the student is given bedside instruction and work in taking charge of the patient in her own home. The minimum number of cases attended by any senior student during the year past, was ten, the number having reached fifty or more. He is required to furnish satisfactory reports of at least six obstetric cases attended personally by him. Throughout the course, the student is lead to observe the necessity of careful work, the value, above all, of prophylaxis and the tremendous importance of the future well-being of mother and child.

Prenatal instruction is supplied by the hospital with regular visits by the district nurse and her assistant, who call upon all of the applicants of the out-patient department. These

nurses are especially alert to any pathological condition which needs the attention of the physician. This work has also been extended to the applicants for hospital care wherever possible or wherever needed.

The postnatal work carried on by the hospital has undoubtedly proved a great success in following up the prenatal care. Every patient is visited monthly for one year after her confinement or until her care and that of her baby are amply provided for. This means thousands of visits.

A weekly conference for the mothers with babies is held, where the advice given, with the discussion of questions of hygiene and especially of feeding has been helpful, and co-operative interest is marked. The imprint of the importance of the obstetrician and his work given to the medical student and carried to the mother by these faithful nurses, will reveal itself in the demand for, and acceptance of nothing but the best that can be given the mother and her new-born infant.

E. P. RUGGLES, M. D.

RHODE ISLAND

Midwifery Report

Rhode Island is practically standing still in regard to the midwife question. There have been no changes in the laws regarding midwives and their activity, in Providence at least, is as great as before. Thirty-nine midwives reported 1,694 births in 1912, while 49 midwives reported 1,789 births in 1913. This is slightly over 29 per cent of the births occurring in Providence in 1913. In Providence the babies delivered by midwives are visited immediately by a nurse from the Health Department who instructs the mother in the care of her infant. This nurse examines the baby thoroughly and reports to the proper authorities any malformations, inflammation of eyes, etc. The nurse takes a smear from even the mildest sort of inflamed eye and instills silver nitrate without waiting for the report of the laboratory examination. Any gross error or neglect on the part of a midwife is investigated and reported to the Health Department, but no systematic examination or instruction is given the midwives as a class.

Since July, 1914, the Providence District Nursing Association has begun to do prenatal work, but it is too early to note any results from that work.

ELLEN A. STONE, M. D.

CONNECTICUT

Obstetrical Clinic

New Haven

All cases entered are reported by the supervising nurse at the dispensary to the Visiting Nurse Association and Infant Welfare Association for prenatal care.

We have a very efficient Visiting Nurse Association. They look after hygiene, help the mothers over rough places—food, clothing, fuel, etc. For the clinic they give individual attention. Monthly specimens of urine, treatment in specific cases, cathartics, etc. They often furnish elastic stockings, etc. Hospital treatment free of charge.

No charge is made for service at the clinic or out-patient service. The Visiting Nurse Association gives its service free to the poor, otherwise a small fee is collected.

In regard to the midwives—New Haven is well supplied. They are required to pass an examination by the State Board. Outside of that nothing definite has been done, as far as I know. There is no other obstetrical clinic here.

THOMAS V. HYNES, M. D.

MARYLAND

The practice of midwifery in the State of Maryland, among the white and colored population, is indicated in the accompanying table, which gives the percentage of births, white and colored, attended by physicians and midwives respectively. In all counties except Charles, the majority of white mothers had the attendance of a physician. In this county 53.17 per cent of white births were attended by midwives. However, in a number of other counties, namely, Anne Arundel, Baltimore, Calvert and St. Mary's, over 25 per cent of white mothers were attended by midwives. It is a noteworthy fact that in the three counties giving a midwifery attendance upon white mothers of less than 3 per cent, the reported birth rate is low. If full registration were obtained from these counties the percentage of midwives in attendance would be materially higher. The counties in which the largest proportion of white mothers had neither the services of physicians nor midwives, were Garrett, 5.85 per cent of births reported, and Talbot, 4.18 per cent of births reported.

Among the colored population, however, the relatively large practice of midwives is seen. In 10 counties over 50 per cent

of colored births are attended by midwives, and in 8 counties over 25 per cent of these births are attended by midwives. The counties in which the largest percentages of colored mothers were attended by midwives are Charles, 84.67 per cent, and Calvert, 83.94 per cent. The counties in which the largest percentage of colored mothers had the attention of neither physician nor midwife are Dorchester, 6.42 per cent and Howard, 6.52 per cent.

**Percentage of Births Attended by Physicians and Midwives—
White and Colored—Rural Maryland—1913**

(Baltimore City is not included)

Counties	Percentage of White Births.			Percentage of Colored Births.		
	Physician Reporting	Midwife Reporting	Other person Reporting	Physician Reporting	Midwife Reporting	Other person Reporting
Allegany	94.56	04.16	01.28	80.95	19.05	00.00
Anne Arundel.	72.94	26.61	00.46	49.53	47.35	03.12
Baltimore.	73.29	26.38	00.33	62.23	36.70	01.06
Calvert	73.85	26.15	00.00	16.06	83.94	00.00
Caroline	72.31	24.92	02.77	33.05	65.25	01.69
Carroll	96.58	02.70	00.72	79.49	20.51	00.00
Cecil	99.75	00.25	00.00	73.77	26.23	00.00
Charles	44.88	53.17	01.95	13.67	84.67	01.67
Dorchester	73.88	24.55	01.56	26.04	67.55	06.42
Frederick	94.71	03.63	01.66	71.58	27.37	01.05
Garrett	91.04	03.11	05.85	100.00	00.00	00.00
Harford	99.34	00.33	00.33	85.45	10.91	03.64
Howard	92.02	07.14	00.84	47.83	45.65	06.52
Kent	79.50	19.67	00.84	34.72	63.89	01.39
Montgomery ..	97.17	02.31	00.51	54.39	45.61	00.00
Prince George.	85.03	14.26	00.71	24.93	74.50	00.57
Queen Anne's..	85.39	14.16	00.46	26.83	72.36	00.31
Somerset	94.07	05.39	00.54	45.45	52.15	02.39
St. Mary's	59.75	38.17	02.07	26.67	70.91	02.42
Talbot	77.82	17.99	04.18	34.33	64.93	00.75
Washington ...	92.05	06.50	01.44	65.12	34.88	00.00
Wicomico	89.83	09.88	00.28	67.01	32.99	00.00
Worcester	78.51	20.25	01.24	24.22	73.91	01.86
Tot. 23 Counties	85.21	15.57	01.22	39.18	58.91	01.90

F. V. BEITLER, M. D.

MARYLAND

Baltimore City

Report by Parent's and Teacher's Club of the Francis Scott Key Public School, Locust Point (Baltimore), on the cooperation of local agencies to secure better care for mothers: A trained nurse, who is also a trained social worker, is paid to work with this school exclusively. She follows all absent children to their homes and investigates causes of absence, and we try to remove the cause.

She found our school children being kept home to care for the house and other children during the mother's confinement; four were absent for this cause at one time. The nurse found that the school children were most inadequate help and that therefore mothers were working before they were able. One whose main help was our seven-year-old school child was washing three days after her baby was born.

Our district has about 20 new babies a month and the demand for school children's help, causing absence and even then furnishing insufficient help, is, therefore, constant.

To meet this need we have organized as follows: First, by forming a mothers' auxiliary in our Parents' and Teachers' Club. (a) This auxiliary meets and sews on baby outfits and mothers' necessities. (b) A woman who finds herself pregnant tells a friend in the club who sees that she has baby clothes and bed necessities. Every new baby receives a baby basket, the gift of the club. (c) A committee of the club arranges to have a friend go to the house the day after the baby is born to do the washing; and another friend to go the second day to iron and clean up.

Second: The school gives the prenatal nurse a list of girls who have done very well in their household arts and who are at home. A girl is hired from this list to take the place of the school child. The family pays for this girl's help if it can, if unable the Federated Charities pay the helper. The agencies cooperating with the public school are The Babies' Milk Fund and the Federated Charities.

PERSIS MILLER, *Principal*.

MIDWIFERY CONDITIONS IN CINCINNATI

With a Review of the General Situation in Ohio

Report of Sub-Committee on Obstetrics and Midwifery

By LOUIS STRICKER, M. D., Cincinnati

I know of no way in which maternity hospital work, or the work of substitute agencies could be extended except by education and publicity; by demonstrating to federations of women's clubs, philanthropic and church organizations, the good work that is being done, the necessity for it, the names of the agencies doing this work and which are ever ready to extend medical skill, care and attention; either free of cost or at a minimum rate whenever called upon so to do.

During 1913, out of a total of 7,952 births, physicians reported to the Cincinnati Board of Health 6,480 or 81 per cent, and midwives reported 1,472, or 19 per cent.

The following institutions did obstetrical work:

1913	No. Births	Still Born	Premature	Death
Cincinnati Hospital	263	42	5	
Ohio Maternity	322	3	0	
Christ's Hospital	321	7	0	
Bethesda	208	7	0	
Jewish	96	0	0	
St. Joseph's Maternity	101	0	0	
Home of Friendless	47	2	0	
Seton Hospital	30	0	0	
Good Samaritan	25	0	0	
	1,418	61	5	

Substitute Agencies

We have in Cincinnati quite a number of excellent societies with staffs of physicians and nurses, which assume the obligation not only to care for the mother at the time of delivery, but who look to it that every preparation is made previous to this time even to the extent of furnishing bed linens and clothing for the infant. Advice is given to go to a hospital with which the society is affiliated but where this is rejected the woman is delivered in her home attended by a skilled physician and a trained nurse. The mother is cared for until such time

when she can again take up the duties of the home. She is instructed in the care of the infant and in its feeding, visited at intervals and referred to the proper clinic when the child does not thrive.

The Cincinnati Association for the Welfare of the Blind has been particularly active in a campaign to educate the midwives and to bring doctors to a full realization of the importance of especial care of the eyes at birth in order to prevent blindness. As a result not a single case of blindness from this cause has occurred in this community since the work was inaugurated.

The following organizations are devoted especially to maternity work:

	No. Births	Still Births	Premature	Deaths
The Maternity Society ..	200	4	3	
The Seton Clinic	101			
Visiting Nurses' Assoc. .	415			
Catholic Visitation Soc..	33	1	2	
Jewish Charities	50			
Union Bethel	53	3		
	<hr/> 852	<hr/> 8	<hr/> 5	<hr/> —

The colored people have no maternity organization. Dr. Louis Cornish (colored) informs me "As far as the colored people are concerned, the conditions are vile and they are forced to rely entirely on the white maternity societies and mostly dependent on medical students. These students are incompetent and there is great negligence on the part of the men who send them out. I say this from personal observation in quite a number of cases."

The logical inference from such a revelation of conditions would be, that students should not be allowed to go out and attend obstetrical work until they are known to be sufficiently advanced to be entrusted with so serious and sacred a duty. "A student at the bedside with book in hand trying to diagnose a position is really a little too primitive"—Cornish.

We have no licensed "baby farms" nor questionable maternity boarding houses and lying-in hospitals in Cincinnati. Sections 6257-6277 General Code, of the Laws of Ohio, have been so rigidly enforced by the Board of Health that such places are practically wiped out. There are however two white women who care for unfortunate girls; one of them

has been under arrest a number of times. There are four colored women who care for colored girls and small children but since there seems to be no place for colored children they are permitted to operate under surveillance.

Rev. Dr. Longman of the Children's Home tells me that there are licensed baby farms at Columbus, Toledo, Cleveland, Akron and Youngstown, but none in Cincinnati. Since the abolition of maternity homes in Cincinnati, most of the unfortunate girls who formerly were in the habit of coming here, now go to Chicago, St. Louis or Pittsburgh where the laws are not so rigidly enforced.

Midwives in Ohio

There are a total of 542 registered midwives in Ohio. Of these 290 have received their certificates since 1896 from the Judges of the Probate Court, but since the new law is in operation the State Board has issued 252 after examination. Dr. Matson, secretary of the State Board states, "that he has no way of giving the exact number of midwives in each of the larger cities, but that probably 50 per cent of those registered are in Cleveland (Cuyahoga County), the next largest number is at Youngstown; there are a few in Akron, Steubenville, Bellaire and small places about Steubenville where there are large numbers of foreigners. There are a few at Columbus and some in Dayton.

Considering the population of Cincinnati as 364,000 it would not appear that the midwife is a very large factor, nevertheless they reported 18 per cent of the births last year and represent about 10 per cent of the total number of registered midwives of the State as opposed to the 50 per cent at Cleveland. This is undoubtedly due to the fact that we have nothing like the immigrant population located in Cleveland and for the same reason conditions are vastly better here than there.

In view of this statement, the following editorial taken from the *Times-Star*, of April, 1914, is interesting and goes to prove a proposition for which the writer has always contended; namely, that we have a far higher class of foreign population than Cleveland—nothing like it in numbers—hence no such numbers of midwives and blind babies:

WHERE CINCINNATI'S POPULATION EXCEEDS CLEVELAND'S

The Government recently issued a bulletin as to the foreign white stock of Ohio. "Foreign white stock" is the rather unsympathetic term given white inhabitants born abroad and natives of the United States whose fathers or mothers were born abroad. It is a remarkable fact

that although the white population of Cleveland reaches the total of 551,925 and the white population of Cincinnati is 343,919, Cincinnati has native stock in larger numbers than Cleveland. The foreign white stock in the Forest City is 419,611, and in Cincinnati is 188,982. Deducting these amounts from the totals you have a native white stock population in Cleveland of 132,314 and in the Queen City of 154,937, or a difference of 22,623 in our favor.

Other interesting facts are presented in the Government figures. In Cleveland the German stock amounts to but 24 per cent, and in Cincinnati to 37 per cent. It is in representatives of Southern Europe that Cleveland far surpasses Cincinnati. We have 4,003 Italians to Cleveland's 17,133. Of Moravians we have so few that the Government has not enumerated them, while Cleveland is given credit for 39,296. Our Slavonian population is negligible, at least the Government does not mention it, but Cleveland has 14,332 Slavonians. Cleveland possesses 12,977 Slovaks, a nationality that in Cincinnati is scattering. The Magyars number 23,028 in Cleveland and 1,242 in Cincinnati. In Polish representation Cleveland has all the better of it, 35,615 to our 1,201.

These statistics show that immigration has reversed the old order in its movements. The tide from the northern part of Europe seems to have sought a home in Southern Ohio, while immigrants from Southern Europe have been attracted to the Northern part of the state.

Wherever work for the prevention of blindness has been taken up, the first disease attacked has been ophthalmia neonatorum, and in this campaign the first persons not only appealed to, but investigated, have been the midwives so that much of the regulation of midwives has been advocated by oculists rather than by the obstetricians.

In 1911, through their visiting nurse, the Cincinnati Association for the Welfare of the Blind, made a complete survey of all the midwives in the city. Every midwife was visited at her home, interviewed, and a complete record taken. It was found that there were 72 women practising midwifery of whom but 51 had a certificate or license to practice. The work was so well done in the beginning that during the past two years, but ten new midwives have been located, and of these but two have been able to pass the State Board examination.

Though there are 51 licensed midwives in Cincinnati, Mr. Wm. Evans, the Registrar of Vital Statistics, assures me that there are not more than 45 who make birth returns to the office and quite a number of these make but few birth returns.

The Association for the Welfare of the Blind has been active in going after the midwives who either did not have the legal right to practice or who were derelict in their duty. The society has been instrumental in securing the arrest and conviction of twelve midwives, two of whom had to be re-arrested and threatened with a jail sentence before they

heeded the decision of the court. One woman past seventy who had not only been derelict in her duty toward an infant who had been almost totally blinded as a result of her carelessness and ignorance, but who had indirectly caused the infection of the eyes with almost total blindness, of a six-year-old brother of the infant—had her license revoked. Two midwives at present are under indictment on criminal charges and a number (5) have left the city, and as has been said but two have been added to the ranks in the past two years.

If this work of the Society for the Welfare of the Blind had served no more important purpose it certainly has awakened in these midwives a sense of responsibility and has undoubtedly deterred others from secretly taking up the work. Formerly they seemed to go right along without any regard to the law or their responsibility to their patients. Many of these women were dirty, ignorant and treated our efforts to enlighten them as a positive intrusion and an insult and would not desist after the law was made plain to them. After fines and orders to desist had made no appreciable impression on their minds or actions, Judge Fricke of the Police Court, summoned them all before him one afternoon in August, 1912, and after giving them a severe lecture assured them that the next one that came before him would go to the workhouse. This had the desired effect, and the law has since been obeyed. So far as we have been able to discover no unlicensed midwife is following her profession. This secret practice is difficult of detection except when a death certificate is returned without a corresponding birth certificate being on file; investigation usually then unearths a delivery by a midwife who could not make a return. An ugly feature which has likewise been broken up was that of licensed physicians protecting unlicensed midwives who for a fee of fifty cents or a dollar would sign birth certificates without ever having seen the infant. The State Board however ordered them to stop and assured them that their license would be revoked at the next offense.

The original survey of the midwives made by Miss Malinda Mitschke in 1911, disclosed astounding facts of illiteracy; many of the midwives could neither read nor write, many could not speak English, most of them living in unsanitary surroundings; one was a rag picker when not engaged in obstetrical work, others went about barefooted and extremely dirty about their person, the obstetrical outfit in many instances consisting of nothing more than a pair of old rusty scissors and a piece of tape. Some held diplomas from fake schools

of midwifery and practically all had a profound lack of regard for the attainments of the average practitioner of medicine. Many of the most illiterate held old Probate Court licenses.

In a report which the Cincinnati Association for the Welfare of the Blind made in 1912, the following statement was made: "The campaign of prosecution and education of midwives has surely borne fruit. The very fact that they have been visited and watched has made them more careful; the illegal practice has been stopped, and strange as it may seem, there have been no additions to their numbers this year."

In a report made January 1, 1913, the statement is made that the midwife question is well in hand and that they have been brought to a full realization of their responsibility in the prevention of infection of the eyes of the newborn.

Miss Celestia Snedaker, our visiting nurse, and who for the past year and a half has been in contact with these women says, "As a class they are careless and untidy, have very little education; many are unclean and know nothing of surgical cleanliness. A few are most anxious to improve, but others can be taught nothing as they think they know more than the physicians."

In Ohio as time goes on the midwife will become less and less a factor in obstetrical work because the laws governing the practice of midwifery are yearly being strengthened and it is being made more difficult for the midwife to qualify and pass the State Board examination.

In 1911 of 81 applicants for license 44 passed the examination.

1912	72	"	"	"	42	"	"	"
1913	30	"	"	"	3	"	"	"

Dr. George H. Matson, secretary of the State Medical Board, has told me of conditions in other parts of the State, which are exactly the same as those existing here in Cincinnati and in some instances worse. In an effort to improve them he has delivered several lectures in various cities on the general principles of asepsis and personal cleanliness and its general bearing on their work; he has been enthusiastically received, and always plead with to extend the course.

It has been said that the midwife is a relic of barbarism. Nevertheless, we must not close our eyes to the fact that they are filling a want among a class of illiterate ignorant immigrants, who bring their traditions to this country with them. Many of these women would not permit a man to deliver them and insist on employing these women. They are further in-

duced to employ them by reason of poverty. The midwife performs this function for a fee of from \$8 to \$10, and in addition many of them take up the duties of the mother; do the house work, cook the meals, do the washing and take care of the other children until such time as the mother can again take up the duties of the home. However, I have come in contact with cases where disastrous consequences have ensued on the employment of a midwife, not due to ignorance or poverty, but rather in the interest of thrift.

So that if we must have these women, their standard of efficiency should be raised. The law of 1913 will do much good in this direction in the future. But for those who are already here and for those who in the future may come from abroad, or those who in the future may desire to take up this work, some provision ought to be made to give them the necessary education along practical lines; especially with regard to asepsis, general symptomatology of pregnancy and labor and the danger signals; how long they may procrastinate and when to send for a physician. Such a course for midwives given by the University Medical School to my mind is not only a present necessity but would be a distinct advance in the conservation of the lives of mothers and infants.

REPORT OF SUB-COMMITTEE FOR KENTUCKY

ELISABETH SHAVER, Chairman

A report of this Sub-Committee is less a statement of what has been accomplished in Kentucky during the year than a glimpse of the encouraging outlook for future activity through channels but recently opened.

A state-wide attempt to stamp out trachoma has resulted in the establishment of many clinics in the mountain districts and in rural communities everywhere.

It is fair to believe that the instructive health work which is progressing with almost miraculous effect in combating eye conditions will be the means of making known to the people remote from railroad, from schools, from hospitals and physicians the safety and comfort of modern obstetrics and the great possibilities of reducing the invalidism so common among women who now know nothing of adequate medical observation and who are without the instruction which will make them healthful mothers of healthful babies. Nor is it too remote to suggest that the "Moonlight Schools" which will be opened up for adults may do much toward abolishing superstition and the traditional customs which at present are

themselves a menace to health and life, especially to infant life.

In Lexington, a city of 40,000, a Babies' Milk Fund has been organized with definite plans to work out a prenatal instructive course. Cooperation with a local hospital will afford excellent obstetrical service. Much has been accomplished already by the Association for the Prevention of Blindness to regulate the practice of midwives in that community.

In Louisville, the Obstetrical Clinic which was opened by the Babies' Milk Fund Association in September, 1913, in conjunction with the Medical Department of the University of Louisville, offers adequate obstetrical care for those whose circumstances require free medical attendance.

At weekly clinics expectant mothers are examined and instructed by a member of the staff, in the presence of students of the senior class: records are made of urine, blood pressure and general physical condition.

The prenatal nurse makes visits to the homes at intervals of two weeks or ten days teaching the hygiene of pregnancy, directing the preparation of the home for confinement and the patient for maternal duties. At the request of the nurse, home visits are made by staff physicians.

The patients are delivered by a member of the staff assisted by student and nurse. Daily visits are made by the nurse for ten days to care for mother and child: the physician continuing his visits until the patient is dismissed obstetrically cured.

There is much to be said in favor of having the same nurse for prenatal, delivery and post partum service.

On the day of discharge the baby is referred to the nearest infant welfare station thus keeping the mother under uninterrupted supervision and instruction.

The clinic is yet in an experimental stage but the results of the first year furnish convincing proof of its value as a necessary adjunct to the infant welfare movement, insuring increased vitality of babies born after pregnancy conducted under the guidance of the clinic, making maternal feeding an almost universal routine, giving to actual mothers the boon of healthy motherhood, urging upon potential mothers the importance of preparing for intelligent motherhood.

In the first year there was an enrollment of 63.

Deliveries 42

Stillbirths 1

Miscarriages 2

Average length of time under prenatal supervision—3½ months

No eclampsia—no deaths of mothers

Babies—75 per cent breastfed—12 per cent breast and bottle

Infant deaths—3

1 Pneumonia— 21 days

1 Syphilis— 14 days

1 Syphilis and prematurity— 1 hour

REPORT OF SUB-COMMITTEE FOR INDIANA

LOUIS BURCKHARDT, M. D., Chairman

In order to secure a fair statement of the conditions in the obstetrical work in the State of Indiana, I had eight counties selected representing the different classes of population.

Marion County (Indianapolis)—260,715.

Lake County—The Steel Trust City of Gary, with a distinct factory population, mainly of foreign origin—16,802.

Allen County (Ft. Wayne)—63,933.

Vanderburgh County (Evansville)—69,647. Industrial and rural.

Lawrence and Huntington—Agricultural and some industrial.

Marshall and Crawford—Rural.

I give the number of births, deaths, stillbirths and cases attended by midwives; the percentage of mortality in the midwives' and physicians' practices. To check up the cases where midwives had taken charge of the case and subsequently called in a physician, death returns of the babies under one week old were compared with the birth returns. This, however, changed the percentage very little.

STATISTICS FOR THE YEAR 1912

MARION COUNTY:

	Percent
Number of births.....	5,356
Number of births attended by midwife.....	56— 1
Number of stillbirths.....	222— 4.1
Stillborn or lived less than ten days.....	392— 7.3
Attended by midwife.....	3— 5.3
Attended by physicians.....	336— 7.3
FACTORY AND FOREIGN POPULATION—COUNTY:	
Number of births.....	1,845
Number of births attended by midwife.....	656—35.5
Number of stillbirths.....	118— 6.4

Stillborn or lived less than ten days.....	236—12.8
Attended by midwife.....	55— 8.3
Attended by physicians.....	181—15.1
MIXED POPULATION COUNTY:	
Number of births.....	2,098
Number of births attended by midwife.....	182— 8.6
Number of stillbirths.....	65— 3.1
Stillborn or lived less than ten days.....	121— 5.7
Attended by midwife.....	4— 2.1
Attended by physicians.....	117— 6.1
MIXED POPULATION COUNTY:	
Number of births.....	1,570
Number of births attended by midwife.....	58— 3.6
Number of stillbirths.....	61— 3.8
Stillborn or lived less than ten days.....	126— 8
Attended by midwife.....	8—13.7
Attended by physician.....	118— 7.7
AGRICULTURAL AND INDUSTRIAL:	
Number of births.....	863
Number of births attended by midwife.....	38— 4.4
Number of stillbirths.....	31— 3.5
Stillborn or lived less than ten days.....	52— 6
Attended by midwife.....	3— 7.8
Attended by physician.....	49— 5.9
AGRICULTURAL AND INDUSTRIAL:	
Number of births.....	704
Number of births attended by midwife (these births were reported by Olive O. Nelson, the record of whose license could not be found).....	16— 2.2
Number of stillbirths.....	19— 2.7
Stillborn or lived less than ten days.....	46— 6.5
Attended by midwife.....	1— 6.7
Attended by physician.....	45— 6.5
TWO POOR RURAL POPULATION COUNTIES:	
Number of births.....	684
Number of births attended by midwife.....	...
Number of stillbirths.....	31— 4.6
Stillborn or lived less than ten days.....	58— 8.4

The surprisingly good results of the midwives may be explained by the fact that we have a rather strict supervision over their work, that the midwife spends all her time in waiting on the case, whereas the physician spends as little as is consistent, and by the fact that the midwife naturally competes in her class of practice with the less responsible of the physicians. The report of our dispensary will show that the midwife cannot exist where competent assistance is offered by regular physicians.

The Indiana University School of Medicine offers the following course: Didactic lectures for the seniors and juniors, manikin work (2-hour periods for nine weeks); dispensary out-patient department, six hundred cases a year (about

twenty cases per student). This work is under the strict supervision of a salaried assistant of the department. Discussion of work done in the dispensary by the head of the department in the Obstetrical Seminar. For seniors—three bedside clinics per week at the City Hospital—to classes of three to four students each.

Clinical work is emphasized in contradistinction to didactic work. Considerable help has been afforded through the Social Service Department in getting short statistics of our work in the out-patient department. I call your attention to the low percentage of puerperal fever and the fact that we control twelve per cent of all labor cases of our city.

STATISTICS FOR ONE YEAR—JUNE 1, 1913, TO JUNE 1, 1914.

	Percent
Number of births in Indianapolis.....	5,639
Number of births in City Hospital.....	167— 3
Number of births attended by City Dispensary.....	402— 7.1
<hr/>	
Total charity cases.....	569—10.1
Number of stillborn babies in Indianapolis.....	213— 4
Number of stillborn babies in City Hospital.....	7— 4.2
Number of stillborn babies in City Dispensary service....	14— 3.5
Number of babies died in first month City Hospital.....	5— 3
Number of babies died in first month City Dispensary...	26— 6.5
Number of threatened interruptions City Dispensary....	72
Number of complete interruptions City Dispensary.....	52
<hr/>	
Total	124

STATISTICS FOR THE QUARTER ENDING SEPTEMBER 1, 1914.

	Percent
Number of births in Indianapolis.....	1,473
Number of births in City Hospital.....	60— 4.1
Number of births in City Dispensary service.....	122— 8.3
<hr/>	
Total charity cases.....	182 12.4
Number of stillborn babies in Indianapolis.....	60— 4.1
Number of stillborn babies in City Hospital.....	2— 3.3
Number of stillborn babies in City Dispensary service....	5— 4.1

REPORT OF SUB-COMMITTEE FOR ILLINOIS

JOSEPH B. DeLEE, M. D., Chairman

For the purposes of this report an attempt was made to get information on the following points:

- (1) The status of the midwife in Chicago.
- (2) The status of the midwife in the State.
- (3) What is being done to substitute the midwife;
hospitals, dispensaries, etc.
(Colleges
- (4) Status of Obstetric Teaching (Hospitals
(Training Schools
for Nurses.

(1) *The exact number of midwives, or women practicing midwifery in Chicago is unknown.* It is variously estimated from 1,500 to 6,000. A committee appointed by the City Council in 1908 could not determine this. Illinois licenses midwives to practice after an examination which is, apparently, searching, and difficult to circumvent. In reality it is neither, as in a case cited by Miss Allen, Social Worker of the Chicago Lying-in Hospital, where the head of the midwife school was permitted to act as interpreter at the examination. In other cases a fee to some politician will ease the process for the applicant. The above mentioned committee reported that one-third of the women interviewed could be classed as criminal, many attempted operative deliveries, a large proportion agreed to perform abortions, even maintaining homes for the purpose. This committee made some very sensible recommendations, not one of which has, to my knowledge, been carried out. There are 7 midwives' schools in Chicago. They are run for money only. Standards are of the lowest in every regard.

In 1898, at the request of the Commissioner of Health, who had obtained legal power from the City Council, the writer was asked to prepare a set of rules and regulations for midwives, modelled after those in vogue in Germany. The city was districted and the midwives registered in each district were provided with these rules, and also the names of local physicians who had agreed to respond to the calls by the midwives for help, the cases in which they were to summon assistance being explicitly described in the rules. In order to assemble the cases thus obtained and use the material for scientific purposes, these physicians were provided by the city with special history sheet blanks, which were to be filled

out and sent to the Registrar. The writer was the registrar, and regrets to report that he did not receive a single case history to register. The movement died "abornin."

Midwives are prohibited by law, from using medicines—which includes the application of nitrate of silver to the eyes—and from doing any obstetric operation whatever. I know they do all of these and gynecologic work too, such as tampons—dilation of the cervix, the insertion of pessaries. If discovered, however, the State prosecutes them vigorously.

(2) *The Midwives in the State.* Dr. A. E. Diller, of Aurora, kindly tried to obtain for me, first hand information on this point. He wrote to prominent physicians in thirty-three of the largest cities of Illinois asking the number of midwives practicing there and what kind of work they did. The State does not have a complete registry, since many women practice midwifery with no other formality or preparation than having a sign painted with their name and business upon it. Twenty-one physicians replied to the list of questions, and six of them stated there were no midwives in their cities; one said, none in the county. All professed ignorance of the status of the midwives, and even of their existence. The impression received in reading the replies was unavoidable, that there are, relatively to Chicago, very few midwives practicing in rural districts. This is contrary to an opinion fairly generally held.

My own experience with midwives has been large. They are good and bad. Most of them are ignorant but not conscienceless, quite the contrary. Most are dirty, but less dangerous to their patients than are most of the doctors who would be called to treat them, in case of trouble. Many commit abortions—but can the doctors cast the first stone? Many perform operations of which they are incapable but they condone this by saying they can do them better than the physicians they call in. Their mistakes are mainly due to ignorance, less to carelessness, which may not be always said of physicians. The State should not allow such ignorant women to practice the difficult art of obstetrics. The error is of the State, and public opinion.

(3) *Substitutes for the Midwife.* Dr. E. L. Cornell tried to get information on this point, but succeeded poorly. There are two maternity hospitals in Chicago, the Chicago Lying-in Hospital and Dispensary and the Chicago Maternity Hospital and Training School for Nursery Maids. The latter is a small institution of twenty-four beds. The Lying-in Hospital has

thirty beds now, and a building under construction which will accommodate one hundred and thirty more. Nearly all the general hospitals maintain maternity wards and the service in some of these is large. The Cook County Hospital has over 1,000 deliveries annually, Michael Reese Hospital from 1,300 to 1,500; St. Luke's, 500; the University Hospital, 400; Wesley, 350; Presbyterian, 350. These are all largely charity cases. It was impossible to learn how much prenatal work is being done, but this must be very small. Probably in some cases instructions are given regarding diet, the urine and complications, and those hospitals having social service departments strive to obtain favorable conditions for the poor pregnant women during the latter weeks.

There are several dispensaries or out-maternity clinics here. The largest is that of the Chicago Lying-in Hospital. It handles over 2,000 cases annually. The main dispensary is in the heart of the Ghetto, and there are two branches, one at the Provident Hospital for the care of colored women, and one in the Stock Yards district for the wives of the men who work in the packing industry, mainly Poles, Slavs and Hungarians. Antenatal care is given the cases at these dispensaries; they are furnished a set of rules in their own language, are examined for abnormalities, the urine is examined, and blood pressure taken in suspicious cases, and poor women are cared for by the Social Workers, Miss Allen and her assistant. During labor a doctor, a student and a nurse are sent to the home to conduct the confinement and daily visits are made during the puerperium. The Visiting Nurses' Association cares also for a certain proportion of the cases.

Several general hospitals maintain out-services but it was impossible to learn anything definite of their work. In general the impression was gained that the midwife is being gradually supplanted by the hospitals and dispensaries but that since fully 25,000 births are conducted annually by them, much still remains to be done.

No organization has yet undertaken to furnish trained nurses to take the place of midwives. It would be very easy for any nurse to do this in Chicago by passing the examination for a midwife license. Whether the trained nurse should supplant the midwife or not, depends on what standards of obstetric practice are recognized, a matter to be referred to later on.

(4) *Status of Obstetric Teaching.* The three large medical colleges, Northwestern University Medical School, Rush Med-

ical College, and the Medical School of the University of Illinois (P. & S.) all provide excellent didactic and clinical courses in obstetrics. Compared with the departments of surgery and medicine however, obstetrics receives not enough prominence in any one of these schools, but this again is a matter of standards. The other schools in Chicago, and the night schools find it difficult to furnish sufficient instruction to thoroughly equip their graduates to practice obstetrics.

Years ago there was not enough obstetric material available for the teaching of practical obstetrics. Now, there is an overabundance of cases but not enough students and internes, from the larger schools, to do the work. The various dispensaries therefore admit the students from all the medical colleges and thus the obstetric departments in the smaller ones are strengthened by the giving of valuable practical training to the students.

The same conditions exist in the teaching of obstetrics to nurses. A few of the best hospitals have sufficient material and qualified attending obstetricians to give the nurses adequate obstetric training. Many of the training schools have neither. These latter however will not send their nurses to the institutions which could give them the proper training and where they could learn high obstetric ideals. Illinois has adopted the registration of nurses and the hospitals desiring that their nurses should be eligible must meet the minimum requirements of the Board of Nurse Examiners. These requirements however were determined not by what should be an ideal course—didactic and practical, but by what the framers of the rules at the time, five years ago, thought it was possible for the schools to give. Had they insisted on an appropriate apportionment to obstetrics, only about thirty per cent of the schools would have been eligible for the degree, R. N.

In fact the whole trouble with the status of obstetric teaching can be traced to a lack of high ideals.

Obstetrics still carries with it the odium of midwifery. This statement cannot be successfully contested. Throughout the medical profession, throughout the nursing profession, inbred in the general public, there is a lack of appreciation of the dignity of obstetric art and science. We see it evidenced everywhere. The best men in the profession will not adopt obstetrics as a specialty and the few prominent examples only serve to show the existing conditions more clearly. The surgeon, the gynecologist and even those in the minor specialties

look down on the accoucheur. Only that accoucheur who does gynecology, who "operates," is paid any respect by his confreres or by the public. General hospitals give the poorest and least desirable quarters to the maternity ward. How many of my hearers can say that the hospitals they attend give exactly as good service in the maternity as in the general surgical operating room?

The State permits midwives to practice obstetrics. Does anyone need further argument to be convinced that obstetrics is on a low plane? Could there be a more direct insult to the accoucheur? Do you wonder that a young man will not adopt this field as his special work? If a delivery requires so little brains and skill that a midwife can conduct it, there is not the place for him.

The public will not pay for the proper care of child-bearing women. It is a sordid subject to mention, but the fact exists. Obstetrics, not midwifery, I mean real obstetrics, requires an exceptional amount of knowledge, an exceptional amount of skill, unusual tact, and an unusual degree of self-sacrifice—sacrifice of time, of comfort, of strength, and even of health. The pecuniary returns are less than would be derived from one-half of the amount of all of these spent in the other departments of medicine. Is it any wonder that obstetrics is not attractive as a specialty?

No more need be said to depict existing conditions, nor need we go any further in seeking the fundamental cause for the present high mortality of children during birth. The same cause explains why twenty thousand women die every year during child-birth and why millions of women are invalids from what should be a normal process. In a word—the cause is lack of obstetric ideals—low standards.

If the status of obstetrics is low, how can it be elevated? The only permanent progress is made by education. The public must be informed of the evil conditions existing, and the ultimate cause. In one respect the advertisements by McClure's and other magazines of the *Twilight Sleep* have resulted in good, in that they drew the attention of the public to child-bearing women and their sufferings and necessities. It requires the most expert physician—surgeon—accoucheur to successfully conduct a labor under this method, and if the public is taught to demand such men, and will be made willing to pay for them—there will be a rush to the specialty of obstetrics, and a clamor by the doctors, the nurses, and the

medical schools for all the facilities which will enable them to qualify for the work and for the new dignity attached to it.

We older physicians can do something too. We can try to make the work more attractive to the young man who starts to specialize, first, by spreading the gospel that obstetrics is a fine art, second, by providing the accoucheur with sufficient assistants and nurses, so that he need not work night and day; third, we can insist upon having as good hospital facilities for the maternity case as for the surgical case; fourth, we can add to this specialty such gynecologic work that should not have been taken away, i. e., all the work that properly belongs to the diseases and accidents of the reproductive functions, e. g. fistulae, prolapsus uteri, etc.; fifth, we can demand for him a decent fee for services rendered.

While these changes in public opinion are being wrought can we do anything to lower infant mortality and improve the conditions of child-bearing women? Yes, but at the start let me say that we will not do it by trying to educate midwives. Europe has been trying to do this for centuries and has failed miserably. Further, if we save a few lives by improving the technic of a few midwives we would lose many thousands by the inevitable setback obstetrics would receive in the lowering of its ideals. Some one has asked, what is more important to a country than the lives of its people? The answer is easy—its ideals. I am desirous to save the lives and preserve the health of the poor who employ midwives, but I am equally desirous to save the lives and preserve the health of that vastly larger number of middle class and well-to-do women and babes who now suffer as the result of poor obstetrics.

To give immediate relief, (1) we can enlarge our maternity facilities so that the majority of confinements can be made under good conditions. (2) We can increase the out-maternity services. (3) Charitable organizations should endow accoucheurs to do obstetric work for the poor in the same way that visiting nurses are endowed. (4) Trained nurses should specialize more as assistants to obstetricians so that they could watch and care for the confinement case until the time of the delivery when the physician is to be summoned. I am not in sympathy with the movement to make midwives of trained nurses. (5) We can give our students more obstetric instruction, and closer contact with obstetric cases. (6) We can provide maternities for post-graduate instruction, a great dearth of which exists, particularly in the west.

Nowadays the public is more eager to be enlightened on health subjects so that the task of education is not as great as would seem. The economic problem is the harder one to solve, but we must avoid being pennywise and pound foolish. In other words, we must move toward the goal of permanent improvement and not be retarded by the claims of temporary expediency.

REPORT ON OBSTETRICAL CONDITIONS IN COUNTRY COMMUNITIES

DOROTHY REED MENDENHALL, M. D., Extension Department
University of Wisconsin, Madison

The rural districts of the United States represent roughly nearly one-half of the population and yet in the campaign for prenatal instruction and improved hygienic conditions for the mother and child, they have been almost totally neglected.

Wisconsin may be studied as a type of a large middle West state, and one where rural population exceeds the city population. Wisconsin is roughly seven times larger than Massachusetts, it has two-thirds of the population of Massachusetts, and four-sevenths of this is rural. In Massachusetts only one-thirteenth of the population is rural. Wisconsin has only one city of over fifty thousand inhabitants.

In Wisconsin in the *small towns*, in our experience

1. Physicians are as a rule inefficient, careless and poorly trained
2. Trained nurses are seldom found
3. No institutions or hospitals or organized public relief are nearer than 50-100 miles
4. Midwives are rarely met with, outside of communities of foreign born people

In the *isolated village or farm*, the women depend on neither practical nor trained assistance for their confinement. The husband or neighbor woman deliver these cases. They are usually the only available assistants during the few days the new mother is able to stay in bed after her labor.

As a result of this lack of obstetrical care and of the hard manual work these women must of necessity perform, we find the death rate in the rural part of Wisconsin was greater in 1910 than in the city area, from such causes as the puerperal state, prematurity, birth injuries, malformations, and con-

genital weakness. If figures were available for unavoidable miscarriage and stillbirths, we should find even more startling evidence of the need of rural reforms.

Statistics give no idea of the economic loss and individual suffering which this lack of prenatal and obstetrical care represents. Neither does the death rate show the lowered physical condition and impaired vitality of the mothers and babies who manage to survive.

The main causes we believe to be the hardships and hard work incident to pioneer conditions, and the ignorance of the people of the effect of these privations on the mother and child, and a lack of appreciation of the economic value of a woman's life.

In conclusion, we wish to draw attention to the fact that these women represent the best native stock we have, that we are dealing in the country with an American and not a foreign born problem, and the conditions found to be the rule in Wisconsin prevail in the county districts of the West and South, and the isolated parts of the East.

As a nation, have we the right to ignore the suffering and privations of nearly half of our child-bearing women, and leave the problem of the improvement of rural conditions unsolved because of the difficulties of solution?

SESSION ON PUBLIC SCHOOL EDUCATION

(FOURTH CONFERENCE)

Saturday, November 14, 1914, 10.30 A. M.

CHAIRMAN

DR. HELEN C. PUTNAM, Chairman of Committees on School Hygiene in National Education Association and American Academy of Medicine, Member of National Council of Education; Providence

SECRETARY

PROFESSOR ABBY L. MARLATT, Department of Home Economics, University of Wisconsin

**Topic: CONTINUATION SCHOOLS AND THEIR BASIS IN THE
ELEMENTARY GRADES**

CHAIRMAN'S INTRODUCTION:

"Many of the reform movements, in which far-seeing and public-spirited men and women have recently engaged, require a large amount of public teaching before they can be effectively organized and carried into practise; and most of these reforms endeavor to use directly and indirectly the services of the schools, colleges and universities, and to utilize their equipment. * * * such, for example, as the reform of the civil service, the temperance reform, the diminution of infant mortality, all the new projects in preventive medicine, and all the new eugenic proposals. * * * In a democracy there is no other way to effect the needed progressive improvements in government, industries and social life."—From "Educational Evolution," Charles W. Eliot, president *emeritus* of Harvard University.

Dr. David Snedden, Commissioner of Education in Massachusetts, says in the following pages:

"From my point of view, it is a highly important function of organizations like the American Association for Study and Prevention of Infant Mortality to impose upon all schools of home-making definite standards for instruction in the care and nurture of children. It seems to me that, even in the high school, we can make this a topic of some importance; and the schools themselves will respond only when quite definite demands have been made upon them."

The varying personnel in this committee and its annual programs has been almost altogether of educators in positions of authority enabling them to initiate steps for accomplishing such of the Association's aims as appear to them practicable. To their cooperation is due a gratifying amount of actual attainment since 1909. Correspondence with all state commissioners of education, many city superintendents and special instructors, accompanied by reprints of our discussions on the content of actual and possible courses, together with articles in journals of education, has called our object to their attention. So inherently sound is our demand for definite education for parenthood that success is assured. Ideals are growing steadily toward it, as the foregoing quotations selected from numerous similar by educational authorities testify.

Various departments of home economics in universities and colleges have recently included study of infancy together with manual practice in care of infants, so training teachers for the schools as well as citizens. Cooperation is growing between these departments, schools for nurses and institutions for infants or older children.

Various university and college extension courses have recently added instruction for care of children (including infants). The Department of Agriculture through these channels is reaching wives and mothers, and young men and women in great numbers. Short term winter courses at the university or college, lecturers and laboratory or other instructors sent to communities, reading and correspondence courses, with examinations and certificates are among the methods employed.

Various high schools are seeking competent teachers or experimenting with their seniors, or claiming to be thinking about it. Conviction is strengthening that high schools and *continuation schools and classes for these ages* offer the special opportune field for reaching the largest number of people.

Vocational and continuation school propagandists are more often advocating instruction in care of children, mentioning infants. This is a distinct advance beyond the earlier conception that such schools should be for industrial interests only. It may even grow in time to recognize that industrial and commercial education must be correlated with definite standards of home-making and race betterment. Nothing pays that harms the child.

Details of actual courses in the above institutions, and of

possible courses as planned by specialists are found in reports of our previous conferences, notably that of 1913.*

A logical by-product of these conferences has been the clarifying of ideas as to what we should rightly expect from elementary grades as the basis on which to build high school or continuation school work. Parallel with our own urgings of education for parenthood there is growing rapidly a national determination that education shall be compulsory through the eighth grade; also another that society in self-defense, if for no other reason, should provide free instruction for adolescence and later years. The latter our own cause has materially helped to strengthen, since much of the indispensable instruction for parental duties and responsibilities cannot be fittingly given until years of contemplated marriage and even of parenthood. This enlargement of opportunity for boards of education is one reason for resisting temptation to crowd into childish years work not normally belonging there on the specious plea that it is "the only chance."

There are two fundamental principles underlying the relation of elementary schools to education for parenthood. One is that democracy must depend on its schools for establishing the Right. They must not lend themselves to "expediency," compromising with wrongs and promoting the abnormal. For example, there are a few schools teaching elementary school children bottle feeding for babies at home, in spite of the fact that breast-feeding is the normal method, and that the bottle should be substituted only as a last resort by the advice of a physician and under his direction or that of a qualified nurse. The cities in which schools usurp this strictly (or so it should be) professional responsibility have capable physicians, baby clinics and visiting nurses to attend to the cases; and meanwhile the schools are wrongly educating future parents by propaganda for artificial instead of breast-feeding.

The other principle underlying the relation of elementary schools to education for parenthood is receiving special consideration during the present agitation for vocational education. The question is being frequently provoked, "shall public schools give 'class education'?" By this is meant one kind of education for the poor and another for the well-to-do. In our special problem democracy through its elementary schools must throw all influence toward establishing the right of mothers to have education, health, economic opportunity to

* Reprints of the four can be had by sending fifty cents to the Executive Secretary, 1211 Cathedral Street, Baltimore, Md., or of any less number by sending twenty cents for each.

care for their infants; and the right of infants to have intelligent physically competent caretakers. Democracy may not with impunity, by authority of its educators, transfer to immature minds and bodies the responsibilities and duties of adults, as great a mistake in domestic as in industrial life. In the following discussions Dr. Snedden and Dr. Goldthwait give reasons from other viewpoints.

The fact that wrong economic, political and educational conditions have neglected the duty society owes mother and child may be met during the period of readjustment by new efforts that will exploit none, and will develop more all-round efficiency in legislatures, boards of health and health departments in schools; mothers' pensions (or equivalent and supplementary legislation), visiting agents (inspectors, physicians, nurses), mothers' consultations (for infants and others under school age), parent-teacher organizations, these all to be guided by health officials, and having financial and moral support from taxpayers.

The real work of elementary schools as a basis for instruction for parental responsibilities later is of the utmost importance; health of the individual through medical inspection and sanitary environment; health habits and health standards through daily practices and observances; life ideals and race interests through nature (biologic) studies. All these are under way in a few schools. Consistent support will hasten their extension and wholesome results from this subconscious mental attitude toward parenthood.

SOME POSSIBILITIES OF PUBLIC SCHOOLS IN REDUCING INFANT MORTALITY

**DAVID SNEDDEN, Ph. D., Commissioner of Education in
Massachusetts**

MADAM CHAIRMAN AND MEMBERS OF THE ASSOCIATION:

It is my desire that the few words which I am to say this morning, on the general topic of the place of the schools in the prevention of infant mortality, shall be as practical as possible.

Massachusetts has already made substantial beginnings in the direction of training girls for home-making. Under the supervision of the Board of Education so-called "vocational schools" are organized, half the cost of maintenance of which is paid by the State. Among the departments in these schools, that of home-making has a definite place. We recognize home-making as a vocation for which systematic training can be given. Naturally, at this early stage we are confused to some extent in our home-making instruction by the varied and sometimes conflicting character of the contributions made from domestic science, household arts, home economics, and other similar subjects.

It is my conviction that, however much the State may do and however much charitable organizations and the medical profession may do in the way of preventing infant mortality, in the final analysis the mother as the intelligent caretaker of young children is inevitably the largest factor in the situation. Hence, anything that can be done in the way of systematic preparation of young people for the competent discharge of the responsibilities of caring for children, especially in the earliest period of their lives, will constitute the largest contribution toward the prevention of infant mortality.

Great progress has been made during the last twenty-five years as regards training girls in home-making. I say "great progress" because, while we do not have a very large number of schools for this purpose, and while they are as yet not especially efficient, nevertheless, outside of some very conservative agencies like the women's colleges, the general idea that home-making is a necessary and admirable career for girls and that they can be systematically trained to efficiency therein through proper ways and means, has been widely accepted. The public is today willing, in general, to support schools of home-making if they can be shown to be efficient. Our problem now is not

so much one of propaganda in this field as one of devising effective ways and means.

Unfortunately for the efficiency of instruction in home-making, most of the instruction offered, both in college and high school, is over-technical and insufficiently practical. Home-making as a field of applied science rather than as a field of craftsmanship has been the prevailing conception. In this respect, courses in home-making studies have not been unlike courses in other fields, such as engineering and agriculture. There has been a constant tendency, growing, perhaps, out of the older conception that schools existed primarily to train leaders, towards emphasizing the more abstract and least practical phases of instruction.

In State-aided schools of home-making in Massachusetts we recognize five divisions in which practical training and instruction are necessary—namely: (a) the buying, preparation and serving of food; (b) the buying, making and repairing of clothing; (c) the work of cleansing, including laundry operations; (d) the care and nurture of children; and (e) the internal administration of the home apart from the foregoing functions, including chamber work, repair of household mechanism, and the like.

We find that students applying for instruction divide into two very distinct groups. There is, first, the group of comparatively young people, from 14 to 17 or 18 years of age, who are able to attend school as day students, and for whom a six- or seven-hour school day is possible. There are, second, young women already at work for probably 54 hours per week, who seek instruction in evening classes. The latter students will probably range from 17 or 18 to 25 years of age.

In both day and evening schools, we are now making earnest efforts to correlate closely the instruction in the school with home opportunities. As far as practicable, the systematic instruction is given in the school and the practical training in the home, the instructor visiting the girls' homes in order to follow up their work. Obviously, the number of students per instructor must be distinctly limited. At present we are confident that not to exceed 20 students per teacher are permissible if good results are to be obtained. The work assigned for the home consists of definite units or products, each girl thus specializing successfully on units of work that are within her capacity. So far, the work in the evening schools, I believe, is limited exclusively to the buying, preparation and serving of food, and to the making and repairing of clothing. The other divisions, except the care of children, are found in

the day schools only. Thus far, all our experience convinces us that the efficient home-making school should in reality be a combination of work in the home and instruction in the school, both under the supervision of the teacher. We have practical analogies to this arrangement in our agricultural schools. From this point of view, the school itself need have comparatively little in the way of laboratory facilities. The laboratory should be chiefly for illustrative purposes, the true workshop or laboratory being the home itself.

Special cases will arise, of course, to trouble us. In some instances, mill girls are boarders and do not keep house. In other cases it is alleged that the girl's own home is too inadequately equipped to serve as a practical workshop. Personally, I question the validity of this contention very much, but it needs further examination. Again, it is asserted that the mothers are not willing that the instructors should supervise the work of the girls on their projects. This, however, is obviously a temporary obstacle. It is entirely possible, even now, to make one of the conditions of admission to the schools the willingness of the girl's mother to cooperate to the extent required. Some of our teachers are, themselves, unwilling to visit homes, or unable to fit readily into them as supervisors of work. This, I suspect, is a confession of the inability of the teacher to meet the conditions as they should be required.

From my point of view, effective training in home-making will require almost fundamental changes of opinion on the part of the women now trained as home-making or household art teachers. Very few of these teachers, in my experience, have any adequate realization of what are the right standards and what the possibilities in the conduct of a home when the family income is under \$1,000 per year, as is, of course, the case with the large majority of the population. If our teachers will definitely inform themselves as to what are the possibilities and the best practicable standards for a home under these conditions, then they can prove very helpful to girls and to the girls' mothers.

I feel that it is important that a sharp distinction should be made between home-making in a vocational school and the household arts instruction given in the ordinary high school from 2 to 4 or 6 hours per week. The latter is very valuable in its way, but I do not believe it contributes materially to home-making as a craft or as a definite calling. Household arts instruction in the high school can do much to stimulate the formulation of ideals, and to give girls some conception of the possibilities of home-making as a field for applied science.

But skill and craftsmanship cannot, as I see it, be obtained on the basis of four or five hours' instruction per week, any more than muscular development can be obtained upon the basis of a few hours' gymnastic exercises per week. The specialized school for home-making, in which the girl will give two or three hours per day in the class-room, receiving suggestions and definite instruction, and will give at least three or four hours per day to systematic work in her own home on the projects outlined by the school, will, it seems to me, result in definite competency which ought, ultimately, to give a basis even for wage-earning occupations in the home.

From my point of view, it is a highly important function of organizations like the American Association for Study and Prevention of Infant Mortality to impose upon all schools of home-making definite standards for instruction in the care and nurture of children. It seems to me that, even in the high school, we can make this a topic of some importance; and the schools themselves will respond only when quite definite demands have been made upon them.

DISCUSSION

Mrs. Eva W. White, Director of Extended Use of Public Schools, Boston: Dr. Snedden has very clearly brought out the two angles from which this question of infant mortality must be approached—the taking of such measures as will prevent an actual increase of infant mortality, or lower the actual death rate, and such measures as will give us increasingly healthy and more resistant children through an all-round better environment. These two methods of the direct and indirect action as regards infant mortality must to my mind play into each other. Individual mothers must know how to care for their children specifically at every period of growth. Society must catch up these efforts and give them a chance to win these results, by the organization of right conditions of community living. Now I belong to that group of persons who are inclined to turn to the public schools at every point of social need. So in connection with infant mortality, to my mind, the time has come for the public school to grapple with the problem definitely. Specifically as infant mortality? No. As a factor in home training? Yes. Why in the world we people who have specialized in home-making or domestic science have been so afraid of the child, I don't know. We are taught every thing about the care and upkeep of the home,

from marketing to the best kind of metal polish, but the care of a child? Never.* Occasionally in an *elective* course in dietetics, dietaries for children are worked out. One has to enroll in a training course for nurses who are to specialize in the care of children in order to get the knowledge of how to care for children. If one is a far-sighted woman, we must presuppose that one is to have sick children in order to learn how to take care of well children. Considering the whole history of training for the home, perhaps this is not so surprising since the need of incorporating courses in home-making in an educational system is of comparatively recent growth and the practical application of that training does not date back much farther than five years, and in nine-tenths of the school systems is not recognized yet, or if recognized, has not been worked out. When this question of home-making is seen in its proper light, training in the care of children will be given everywhere and not in terms of theory either, but in terms of the actual care of children.

Again and again in the past few years, have I witnessed the frightened, self-doubtful efforts of the young mother in caring for her first child. Many an instance, too, has come to my notice of permanent handicap at eight, ten, twelve, fifteen, due to ignorant care of parents in infancy and early childhood. More than one example could I use in showing how ignorance as to the first principles of home care has been passed on from the elder to the younger generation in spite of all the educational machinery at our command, and these instances are not limited to any one group in society. I have seen the college graduate absolutely non-plussed at the facing of the simplest home problem. My plea then is that the first great test for both man and woman is a knowledge of home problems, in which the child has a very large place.

Now as I have studied into this question of home-making in its application to the question of infant mortality, I find that our instruction needs to be reorganized as to the content of our courses, and as to our method.

Home-making cannot be taught off the surface. Matters of every-day concern need to be illuminated and made of vital interest. A teacher who has never been roused to think deeply, no matter how perfect her domestic science technique, is not the one to teach anything about the care of children. This is not a question of age. A woman of limited experience, no mat-

* Since the appointment of this committee (1909) several university and other departments of home economics have begun good work in care of infants and other children, e. g., Wisconsin and Cornell. See chairman's introduction. H. C. F.

ter how old, cannot teach the relationships of the home. If ever there was a subject that needs to be taught by a person who has the power of all that there is in contagion of personality, that subject is the one that we are considering today. A woman may talk in wonderfully ethical terms about the child—that is not enough. She must in her innermost self have a guiding motive which springs from her ideal of home and of life. No group of boys or girls will react to anything but this inner sincerity which they always immediately pierce. As to method of instruction, something of the method used in social work needs to be carried over into our school systems. In social work much of the same direct results have been gained as a physician gets in the treatment of a patient through an acute need. In the care of a sick child, a case of tuberculosis, the backwardness of a child in school, the nurse or the visiting housekeeper or the school visitor, by reason of the specific need, goes into the home. The housewife is gradually aroused to action and is taught how to so order her home that the need is met. She is taught patiently each step and is told why. The reason for taking certain steps in caring for her child is told her in terms of her own child. It is the husband's need that makes necessary, in a tuberculosis case, the cleanliness and fresh air and wholesome well-cooked food. Roused by her fear of personal loss gradually her intelligence grasps the preventive need of cleanliness and wholesome food. In preventive infant work, where mothers are instructed in the care of their babies so they will not become ill, every bit of instruction is adapted to the needs of each home. There has been a decrease in infant mortality in communities where this work has been organized, because the instruction is effective for the reason that the aim is focussed; each situation is individualized; each mother knows her baby is the center of effort. Now the efforts in the field of social work cannot at best begin to bring about the results which the public schools can from their very machinery and from the numbers reached. Further, it is within the function of the school to reach not only children and young people, but adults. Also, the school should not wait passively for the demand to be made upon it, but should itself be active in experimenting along lines by which to meet the need of training for home responsibilities. We are fast approaching the time of considering that persons are never graduated from our school systems; that the schools are to be open day and night, for every aged groups, to meet any demand for instruction at any given time. At present, along the lines of this question of infant mortality, there is

need for instruction in the care of children, young people and adults alike.

Taking the latter groups, adults. For some time, I have been a firm advocate of the short unit course of instruction, aimed to meet specific needs as to problems of home-making. In every school system, I would have courses in the care of the baby: on infant feeding, on making infant's clothing, etc., given according to the unit system of instruction, that is, six or eight lessons twice a week, on one of the above subjects. I would have these courses scheduled in advance so that persons wishing to join a particular course could so arrange their time as to make the taking of the course possible. I would have the courses offered both afternoon and evening at varying times of the year. Thus, lessons on infant feeding, Tuesday and Thursday evenings, 7:30 to 9:30, Oct. 6 to Oct. 29. Later, lessons on infant feeding, Wednesday and Friday afternoons, 2:30 to 4:30, Jan. 7 to Jan. 30. The groups should not be over fifteen in size. The instruction should be pre-eminently practical. A school system could well go as far as to provide a teacher who would instruct groups in one of their homes. This type of instruction is for those who are sixteen to thirty or forty years of age, for present or prospective mothers.

Now, in training for intelligent parenthood, we must consider both sides of this infant mortality problem, that side which is involved in the obedience or disobedience of general hygienic laws and that side which is involved in the lack of specific knowledge as to the care of infants. From twelve to fourteen years of age is the point when the schools can build the foundations for the future of the home by development of the right kind of courses in personal hygiene and sanitation. Now, woven into this instruction can be included many a direct lesson that affects the welfare of the infant. Taking schools by and large, not as much has been gained by the instruction in hygiene and allied subjects as we would wish, because the instruction has been detached. Children listen to a recitation and recite what has been told them, and that is about all. The boy or girl has not been held to interpreting his new knowledge in relation to himself or his own home background. Far too much of our instruction in this line has been by way of precepts—book facts, instead of being made to grip into a child's understanding by a wealth of examples applied to a child's very own self or to the little brother or sister at home. So closely interwoven should be this indirect and direct instruction that one plays into the other and both become tied together. The more informal the instruction by

way of spontaneous question and answer between teacher and pupil by way of centering about the child's own life and the home the better. This form of instruction is a high art, but it is the very form that saves 75 per cent discount. The strongest teachers we have should be the ones chosen to teach subjects related to the home. These teachers, when chosen, should steep themselves in the environment surrounding the homes of the children whom they are to teach. The illustrations a teacher would use in a country district would not be the ones to be chosen for a city. Even districts of a city vary by extremes. We must not allow our children to accept statements parrot fashion. It is our duty to present a truth from one view point, and then another, until we are sure it is not accepted as a detached part, but as a fact with a personal affiliation, and that it is seen in its relatedness. This is of the utmost importance with questions as vital as cleanliness, ventilation, need of proper food, rest, bathing, all of which are included in personal hygiene. All of this instruction applies to both boys and girls, and is a sure way of guiding toward intelligent parenthood. If every boy and girl between the ages of 12 and 14 now being taught in our schools incorporated into his daily action the principles of right living taught—think of the advance that would be made as regards health in one generation. It is frequently said "Well, we teach the children but they cannot get a chance to apply our teaching, because the parents won't let them." This is only in part true. Children are not so slow about doing what they desire if they really want to do a thing badly enough. I remember one year waging a clean hand campaign. More than one mother met me with the statement to this effect, that Johnny was always scrubbing now and she was glad. In a certain district where the windows in the houses are not opened as much as we would wish, a teacher took it upon herself to see how far she could better the situation by her talks with the children, by personal talks with parents. That woman has worked a revolution in the area of her influence.

Now there is a great difference of opinion as to whether direct instruction in the care of infants should be given under the age of 16. The argument is that the girl of 14 to 16 or even to 18, is not receptive to the instruction; and there is, therefore, not much hope of results from the instruction. Personally, I grant a degree of truth in this, but I am not entirely sure that the difficulty is one of age as much as the fact that we may have failed in our way of approach in presenting home subjects to the girl. Time does not permit the analysis of this

point. Suffice it to say that this is a period of self-consciousness and idealism, of subtle inner reactions. Prosaic facts of everyday life are not the most appealing between 14 and 16. Yet I would be willing to wager that if the girls were to have time allowed them to do for a Milk and Baby Hygiene Association for the *cause* of childhood, they would absorb and apply every fact told them. In this connection I stand against a certain type of work known as "Little Mothers" Clubs.

In spite of the difficulty involved in instructing girls between 14 and 16 in home subjects, I believe we should attack the difficulty. On every side we get example after example of the tragedies due to ignorance of child care. Many girls leave school at 16 and never enter a school building again, and even if the short term unit courses mentioned above are offered, it is only the more intelligent who recognize the need of enrolling for this instruction. Moreover, I firmly believe that even if this instruction is dormant, it will later spring to use when the girl meets her responsibilities. Of the need of incorporating courses on the care of the mother's health, feeding of infants, home hygiene and its effects on the infant in home-making schools, there can be no doubt.

Dr. Dorothy Reed Mendenhall, Lecturer in the Community Welfare Extension Work, University of Wisconsin: Although the rural population of our country is nearly as large as the city population, relatively little has been done in welfare work outside of the city districts. The more concentrated need of the large city, at once more appealing and more easily approached, must explain why so much more time has been spent in bettering the hygienic and social conditions in the areas of congested population. Many of the problems presented by the country are more startling and more difficult of solution than those found in a very large city, such as New York. Any one acquainted with the facts must realize the great need of material help and of enlightenment that is met with in the rural communities.

The Farmers' Institutes of the Agricultural Department and the University Extension Movement of some of our universities seek to reach in their field work the small town, the isolated community and the sparsely settled agricultural districts.

The Community Welfare Work of the University of Wisconsin, under the direction of Dr. J. L. Gillin, has been organized now for only two years, so that the amount of work accomplished has not been great but it has opened up a new field

where there is vital need of further endeavor. One new development has come through the Women's Meetings, which are gatherings of the wives, mothers, and daughters of the neighborhood to discuss subjects of interest to them, and especially those topics which the preliminary social survey of the district has shown to be vital to the community. Programs combining domestic science talks and demonstrations and talks on hygiene and feeding of children were first offered. Our audiences were usually very large in proportion to the size of the place and as a rule consisted of intelligent, earnest women, often of limited opportunity, but pathetically eager for help in their home problems. It is worth mentioning that Wisconsin has 78 per cent native born population, so that our problem does not deal with a foreign people. We are assisting a representative American civilization.

In the discussion following our informal lectures we were astonished to find that the interest of our audience was largely on obstetrical matters. The women stayed after the talks to ask questions on the causes of miscarriages, or childbed fever, or to ask the line of treatment for caked breast, lack of breast milk, and a variety of more searching inquiries. Some of the conditions suggested by their questions were so startling, that we began to investigate the entire subject of the care of the child-bearing woman in the rural districts. We found, briefly, the following conditions to hold practically for all of Wisconsin.

The medical profession is as a rule careless, inefficient, and badly trained. With a few exceptions the country districts are stocked with the graduates of the fourth-rate medical schools.

There were no trained nurses in the small towns or cities we visited. There were usually no hospitals or institutions capable or willing to take obstetrical patients, nearer than from 50 to 100 miles.

The practical nurse and the inefficient physician were available for the women in the small town. The woman on the farm or in the outlying village relies on no practical or trained assistance for her confinement. The husband or the neighbor woman is the accoucheur almost invariably, and not only conducts the labor but is the sole assistant or nurse in the few days the new mother remains in bed. Another condition that has a decided influence on the physical well-being of the mother and so of the offspring is the necessity the country woman is under of doing hard manual labor, practically all during her pregnancy and after a brief intermission during her

convalescence and the lactating period. By better management and by cooperation of their husbands, some of their burden can and must be lifted from the shoulders of these mothers at least just before and after their labor. In districts where the servant class is unknown and the income of the average farmer is only \$500.00 or \$600.00 a year, it is absurd for us to preach rest and the dangers of overwork to women on whom depends the washing, scrubbing, cooking, sewing, and caring for a family often of large size. The average book or pamphlet on hygiene for the prospective mother does not furnish much help for the mother of six when it tells her that she must not do any heavy manual work, and that she should enter a hospital if she cannot secure the services of a competent physician. In many instances she has to do heavy work or see her family suffer, and she unfortunately cannot leave her children to the care of the hired man, as the farmer does his stock, if a hospital were near enough to be of service to her.

Yet these conditions prevail in rural Wisconsin which contains over half the population of the state, and holds for the isolated rural districts throughout the country, even in the East.

The reason for this state of things, as we have already suggested, lies first in the hardships and hard work incident to pioneer conditions; secondly, in the ignorance of the mother, who does not realize the importance to the child and to her future health of better care of herself, and in the ignorance of the father who does not realize his responsibility to his wife and child, nor even that their health and the woman's work in the home has a value to him in dollars and cents; thirdly, in lack of efficient physicians. We could urge a man to give his wife better care than he does his stock, if there were more to choose between the veterinarian and the family physician; fourthly, in lack of trained nurses, good practical nurses, or domestic helpers so that proper care for a woman during her labor and lying-in may be possible.

It is of interest to those who feel that there is great need of prenatal instruction and of making possible better care during labor and the puerperium for the women of Wisconsin, to find that the figures of the last census bear out our understanding of the situation. We find the death rate in Wisconsin in 1910 was greater in the registered rural district than in the registered cities for such diseases as the puerperal state, prematurity, malformations, birth injuries, and congenital debility. In some instances the difference was striking. If

statistics were available on miscarriage and stillbirths the figures would probably be still more startling. It is also of interest to find, as we should expect, that deaths during the first two years from gastro-intestinal complications are more frequent in the city than in the country. Infants in the country are largely breast fed.

From our experience and such statistics, we believe that one important factor, too often neglected, underlying the great loss of life in the first year is the insufficient care of the woman during her pregnancy, labor, and lying-in; and also that the mother in the country suffers infinitely more hardship and privation than would be tolerated in a city of any size.

Community welfare work, which is practically a traveling settlement, is one way of attacking this rural problem. If this educational propaganda could be general and at the same time we could introduce into these districts suffering humanity's best friend—the visiting nurse, the death rate in the country could be cut in two. Because the problem is difficult of solution, or because it demands methods of attack unlike those perfected for city use, is surely no excuse for our neglecting the lives and health of nearly one-half of our women, representing the best stock of the nation. In child welfare work, we should adopt a broader viewpoint than that of saving so many thousand infant lives a year, for at the root of the problem, and of vital importance in the country as well as in the city, is the conservation of the source of the race—the child-bearing woman.

Alice F. Blood, Ph. D., Department of Household Economics, Simmons College: From my connection with Simmons College I am greatly interested in the question of preparing teachers of child and infant care. It has occurred to me that we are helping to fit young women to undertake this work, although we have not had that object directly in mind. Prospective nurses for the Children's Hospital come to Simmons College for one-sixth of their preliminary training. Work in anatomy, physiology, bacteriology, chemistry, food values, cookery, and sanitary science is taken with us, as preliminary to the hospital training. I believe that many of these nurses are particularly promising for teachers of child care.

Dr. Henry J. Benz, Superintendent, Bureau of Child Welfare, Department of Public Health, Pittsburgh: Our school nurses work all through the year. The nurse sees the mother before the child is born, she sees the child after it is born and follows

it up into the school. She gets in touch with families through the physical defects found by medical inspectors at school and through "Little Mothers Clubs" of which we have twenty.

These little girls range from eight years up. They are taught how to take care of babies, how to wash, dress, and make their clothes; how to prepare their food. When the nurse goes to the home she sees the results. The children are put on a basis of pride and there is quite a rivalry as to who will have the best baby. There are about 3,000 of these "Little Mothers," and quite a number of little boys who take care of babies at home while mothers are at work. All are put through an examination, and given a badge or present.

These "little mothers" tell mothers where they can have the babies cared for, carry messages for our milk stations, and bring the babies to us. We follow up all work from the Bureau of Child Welfare; midwives, foundling institutions, etc.

Dr. Laura A. C. Hughes, Boston: In Boston eleven years ago (1903) we had work very like that described by Dr. Benz. It was very successful for six years; but unfavorable political conditions cut it out of the public schools. We owed its introduction chiefly to a woman on our school board at that time. There were forty lessons, six being on infant hygiene, with instruction in washing and dressing the baby according to the method of the Boston Lying-in Hospital. Such teaching should be given by a graduate nurse who has had some training in pedagogy. That we have so few such nurses is one reason why we have not been able to get these classes into the day schools. In one evening school class of twenty weeks the average attendance from October to the first of January was 89.

Dr. Snedden (closing discussion):

Looking at this thing from the standpoint of the educational administrator, I think there are one or two rocks ahead we should forewarn against. I believe, as already indicated, that there is comparatively little of our domestic science or home-making education in our schools that yet gives adequate recognition to the desirable and necessary standards of living of our people. I encounter so many instances of this in general social affairs that I am inclined to protest that first of all we must be economically sound; that is, we must know what economic conditions are.

The speaker from Wisconsin (Dr. Mendenhall) brought out a point of utmost importance: People do not have nurses in the rural communities. Wisconsin is a prosperous agricultural state. If we were to recommend the introduction of nurses, one of the things I should want to know further is whether it is economically feasible for these people to have them at the price at which nursing now comes.

There is another very important point. In all our work in this field we should not only be sure that we are coming down to the level of things as they are, but we want to be sure we are keeping up to the level of things as they ought to be. As a broad matter of policy, I don't think that any of us should countenance a condition which requires the mother rearing small children to work away from home.

There is a great deal to be done by the "little mothers," if we recognize the mother's working away from home as a defensible condition, and as an inevitable necessity. But, for my part, I feel that society should consider it abnormal for a mother to work away from home during at least the first year of an infant's life, or even during the period of child rearing. Taking into account the welfare of society and its aim for higher standards of living, I think we should deal with such work as an abnormal phenomenon, not be countenanced in the schools at least, but to be prevented by charity, state relief or other measures.

Our efforts should center in two forms of education: education of the person who is to become a mother, which can be done through an extension of our medical inspection service and this advisory relationship; and also extension service such as the University of Wisconsin puts out. You have there a very fundamental basis of experience already established, and what you have simply got to do educationally is to illuminate and interpret. The experience of the woman is so painful and varied that she is keen for knowledge; on the other hand, the problem of educating people not yet married is a different one, and from that side should be approached simply as an incident or feature of the broad program of home-making as a career.

It is just as proper for the wife to prepare food for her husband as for her children; just as important to buy and prepare his clothing as the child's. While the home is the product of the efforts of both husband and wife, it is also a place for rest and recreation of the bread-winner. I have a great deal of admiration for what we are introducing in the high schools in domestic science but have a feeling that it is organized along pedagogical lines making more for general or liberal

education than for practical capacity to apply results which may be needed for concrete situations which may arise later in life.

I am very much in favor of concentrated training—or the short unit system. I think a great deal of training misses fire because it is started on an abstract basis, forgetting that it must be acquired through concrete experiences. The short-unit means that you attack one thing at a time. In the agricultural schools we are not training the boy in the first year to be an all-round farmer, but to raise an acre of potatoes and to get the best possible results. That is our short-unit, and lays the foundation for what comes later.

Offer training to girls in the evening school towards making shirt waists and they will come. Then offer to teach them how to prepare breakfasts. I personally think that so far as our educational theory is concerned, our plans and aspirations, we are making progress very rapidly. The actual execution of those plans is, of course, not very satisfactory yet. Especially am I impressed with that when I talk with practical superintendents of schools.

**REPORT OF ROUND TABLE ON ELEMENTARY SCHOOL BASIS
FOR HIGH AND CONTINUATION SCHOOLS' INSTRU-
TION IN HOME MAKING WITH SPECIAL
REFERENCE TO CARE OF INFANTS**

**Held at Simmons College, Wednesday, November 11th, by the Com-
mittee on Public School Education and Invited Guests ***

Read by the Secretary, PROFESSOR MARLATT

In presenting this report of the round-table I wish to call attention to the fact that last year, at Washington, we took up the problem of vocational work that could be given in the public schools for women over sixteen to fit them to take care of children. We made it very definitely a study of possibilities for wage earning along lines that would make them better fitted as home-makers in the future. For example, the vocation of mothers' helpers requires training for young women (who are able to take it) in the proper care of the child; then sending them into homes, where they are very definitely needed, as all of us who are interested in this work know.

The first two resolutions refer to the discussion of last year, and clear the way for those following which refer only to elementary schools. In the discussion which is to come, please remember that it is elementary schools which are up for intensive discussion at this time.

INASMUCH AS ignorance of sanitation, personal hygiene and care of infants before and after birth is the commonest cause of infant mortality; and

INASMUCH AS racial well-being requires conformity to laws of physical, mental and social health that can be had universally only through specific education;

BE IT RESOLVED,

1. That for young adults and older:—Instruction in home economics in all high schools, colleges, universities, and by extension or continuation work from these, should include in courses for home-makers the care of infants and children, such instruction to be under the control of educational authorities.

* It was necessary to hold this round table a day in advance of the Annual Meeting in order to conform with the instructions of the Executive Committee not to conflict with the hour of any other session. Thanks are due Professor Marlatt for coming to Boston a day in advance, and to Dr. Blood for the hospitality of Simmons College.

2. For individuals in homes and for mothers' consultations, boards of health in cooperation with other persons should provide specialized instruction in preserving the health of infants and children under school age.

BE IT FURTHER RESOLVED:

3. That *in elementary schools* the health of children should be safeguarded by expert medical supervision of each child, teacher and janitor, and of buildings and premises.

4. That pupils should be trained by the schools in the practice of correct personal habits and in personal cleanliness, and that the heating, ventilating and cleaning of school rooms should be used as a means of teaching pupils to maintain correct standards in these particulars.

5. That the laws of health should be taught by suitable study of the physiology of plants and animals, gardening being recommended as a valuable aid.

6. That children should be taught to see the effect of personal conduct on family and community welfare.

7. That parent-teacher associations and school nurses should be utilized as aids in carrying the above recommendations into effect.

DISCUSSION OF THIRD RESOLUTION—HEALTH

Opened with a talk, illustrated by large drawings, on

THE EFFECT ON CHILDREN OF CARRYING BURDENS

JOEL E. GOLDTHWAIT, M. D., Instructor in Orthopedics, Harvard Medical School

The growing child is a plastic creature and is capable of being moulded into good or bad physical form. Anything which puts undue strain upon any part must lead to weakness and varying degrees of deformity. This does not mean that a child cannot or should not do work, but that the work should be so planned that frequent rest periods or periods of change are introduced. Long continued strain or application, whether physical or mental, must result in fatigue. Fatigue must result, if continued, in deterioration, this deterioration showing either in the nervous system or in the physical part of the creature.

In planning work for children it should be remembered that human beings are born of different types, and that that which is perfectly proper for one type may be distinctly harmful to the other. For instance, there is the normal well-poised type of child, of moderate weight, of good digestion, in which the poise of the body is easily maintained and in which reasonable

amount of work is easily performed. We also have the slender, narrow-backed type of child, in which the spine is much smaller than is normal, in which the muscles are long and slender, in which the organs are loosely attached and drag heavily upon the diaphragm, and in which the whole tendency is to droop when the erect position is maintained for any considerable length of time. Work with this type, unless it leads to frequent change of position, leads to much earlier fatigue and is much more harmful than in the previous type. Besides this we also have the broad-backed type, heavily built, thick through the body, with the broad, heavy type of spine, muscles heavy and large in character, with much greater endurance than either of the other types. Work with those of this type is more easily performed and may be carried to much greater extent than with either of the other types.

The appreciation of this fact is of the utmost importance to educators and all who have to do with the development of children and in preparing them in the best way for strong, healthy, useful lives.

The same variation in types is perfectly understood with the animals, and with the horses we have the heavy type which we see commonly in our cities attached to the drays; we have the medium-sized horse commonly employed in the delivery wagons or the less heavy and yet not very active work, while we have also the race horse, lightly built, quick, alert, and nervous. All of these types exist. One is just as fine as the other, but adapted to entirely different work, and capable of performing entirely different tasks.

With the child either of the types can be harmed if the work to which the child is put is kept up for so long that the muscles tire and the natural support of the frame and organs is lost. The slender type of child naturally tires more quickly than the heavy one, but the heavy one can be harmed also if the strain is continued for too long a period.

The fact that these different types exist and that they are adapted to different kinds of work is appreciated in the labor market, and it is not uncommon for those employing large numbers of laborers to indicate in their order that so many "broad backs" are desired and so many "narrow backs." The broad back is capable of performing hard, heavy work day after day and is not particularly harmed by the continued strain of such work. On the other hand, the narrow-backed type of individual is adapted to an entirely different kind of work, the climbing of trees, the running of lines, the prospecting work, that requires greater agility with greater change

of movement. The broad-backed type of individual mentally is different from the narrow backed, the broad backed being more the stolid, calculating, organizing type of mind, while the narrow backed is more commonly quick, alert, sensitively organized, the seer of visions, the pioneer.

Educationally the appreciation of these types is of the utmost importance, and Dr. Montessori in her last book recognizes this and adapts the principle of education to the specific type.

From the point of view of disease, the difference of type is also of importance. The heavy type has its own peculiar diseases, the Bright's disease, the arteriosclerosis, diabetes, etc., etc., commonly being associated with this type, while with the narrow, slender type we find tuberculosis, nervous diseases, infectious diseases, etc.

To treat individuals as if they were all alike both medically and industrially is as unreasonable as it would be to hitch the dray horse and the race horse together and expect the team to work together satisfactorily. With the appreciation of such different anatomical types it should be possible for us to develop the child so that the potential of the child can be developed to its best, and it should be our endeavor to adapt in so far as we possibly can the work to the individual rather than to expect the individual to adapt himself to the work.

Not only is such an appreciation important for the development of the individual, but in a society which has to do with the work of preserving the lives of the little ones it is particularly important that we should appreciate the fact that unless the individual of whatever type is allowed to develop in the best way, that individual, when it comes to the time for propagating its kind, cannot pass on to the next generation the best that it is capable of, and the race suffers in consequence. If a problem of this kind can be handled in a comprehensive and practical way it does not seem improbable that the individual may be helped and that the upward tendency of the race be continued.

DISCUSSION

Dr. Conant, Boston: In Boston we see children carrying heavy wood from buildings that are being torn down, and dragging heavy loads of it in carts, or carrying large bundles on their heads. Their parents have them do this, and it is a tremendous burden on the child. This is important in connection with what Dr. Goldthwait has said.

Dr. Hastings, Battle Creek: My oldest child is of this nervous type, and owes his development to physical labor. From the time my children were four years old they have had every summer three or four months of work and play on the farm. This is better than gymnastics and athletics. So far as we can supply this sort of work for a child we will give him strength and other qualities of resourcefulness and the like.

Dr. Putnam, Providence: There is an anatomic condition not generally known, but which textbooks state exists from birth in one in five persons. The mesentery is abnormally attached and lengthened, so as to permit prolapse of abdominal contents upon themselves and upon pelvic organs. The prominent abdomens you notice in the drawings of the narrow-backed type shown us by the speaker are one indication of this. Technically it is called visceral ptosis.

It can be readily understood that such draggings, pressures, displacements cause constipation, indigestion, mal-nutrition, "nervousness," neurasthenia and the like. The common occurrence and meanings of all this, have only recently been appreciated. Specialists like the speaker are now recognizing the true remedies for these symptoms. Among those by which health is restored, or secured and maintained are half-hour daily exercises lying in positions permitting the falling up of displaced tissues into more nearly normal relations.

As this remedial half-hour is effective, it suggests that caretakers of children who compel, or encourage, or even permit children of this type, and they are one in five, to lift and carry burdens, are either aggravating or inviting ill-health, promoting our hosts of weaklings in the world's work and among parents. There are other useful occupations, instead, for such children.

When educators stimulate the home work of their elementary pupils by giving credits, badges and other rewards, as some are beginning to do, they should understand the physical condition of the child quite as well as the director of any well conducted gymnasium who always plans on the basis of a special physical examination. Yet we see on the lists of duties promiscuously stimulated among elementary pupils by teachers caring for babies, sweeping, mopping, carrying wood, water, coal, tending furnace and other labors, some of which are not healthful in themselves even for adults. School teachers should not "take chances," nor set bad examples. Leave these home responsibilities to parents, family physicians, boards of health or other qualified agencies, at least until they can be

properly developed by the schools. We shall sometime have medical supervision of children before school years to help simplify this matter.

Dr. Snedden and others also spoke.

Dr. Goldthwait (closing discussion): I am exceedingly sorry if I have caused Dr. Snedden or any of you to think that I do not believe in work. Anybody who studies the human body must realize that the body was designed for work and that if performed rightly it is capable of a large amount of work. It is, however, obvious that the broad-backed type can carry heavier loads than the narrow backed, and that the narrow backed can carry its load faster than the broad backed. The narrow back requires much more delicate handling than the broad back, and in our educational institutions already this is coming to be appreciated. At Wellesley College in planning the curriculum it is recognized that the so-called normal, healthily strong individual is the one commonly considered. For that reason the slender type which possesses less stability than the so-called normal is encouraged to take the regular college work in five years instead of in four. By so doing the individual has the benefit of all that the college can offer without being harmed by the strain which doing the work in the shorter time would undoubtedly represent. All through life people are breaking down constantly, not because the task which they are asked to perform is wrong, but that they are not adapted to it, or else that they do not know how to perform the task rightly.

In reply to Dr. Putnam's remarks, there is no question but what that which she has stated is true, and that children are born with germ elements leading to certain anatomic developments. These we cannot prevent, but we can prevent the characteristics to which they lead from becoming harmful. We can, if we go at it rightly, bring the child through to adult life, with the special type of anatomy to be sure, but without being harmed by it.

DISCUSSION OF THE FOURTH RESOLUTION HEALTH HABITS AND HEALTH STANDARDS

Chairman: Your attention is called to the cabinet of School Housekeeping in our exhibit at the Public Library. There you can obtain a copy of the "Summary of recommendations by the Committee on Janitor Service to the Department of Science Instruction of the National Education Association."

It recommends an easy method of establishing in elementary schools habits and intelligent standards in ventilation, heating, air conditioning, on all which in homes a large percentage of infant mortality depends. The appointment of children as health officers, putting in their hands the reporting of sanitary details—some hourly, such as temperature, others needed less often—is inexpensive, educational, and thoroughly effective in maintaining sanitary conditions, as I have found demonstrated in several cities. As our open-air schools abundantly prove, regular school work and personal health are greatly increased in rooms not over-heated and having other qualities of outdoor air.

Prof. Howe, State Normal School, Framingham: We have not known just how to adjust this education to the pupils, although we have done quite a good deal for several years in heating, lighting, ventilation of school rooms. The solution is often absolutely simple when we get it. I believe the next few years, as Dr. Snedden has told us, will see a great deal of light. We need to bring the concrete into prominence, and put the abstract into the background. We have material enough on all sides, if we will only use it. The correlation told by Dr. Blood between theory at Simmons and practice at the beautiful Infants' Hospital near by is an example. The other concrete illustrations we have had this morning showing what our work leads to are what we need, and not merely teaching in the abstract.

Mrs. Ellor Carlisle Ripley, Assistant Superintendent of Schools, Boston: I wish we could do more. I wish every one of our teachers could hear what I have today; but at the same time there are distinct limits, and our teachers are doing the best they can. I believe they are doing better than any other agency you can get. Give them your help for, from this morning's discussion, they are very analogous to the hope of the nation.

Chairman: The hour for closing having arrived, we must omit discussion of the last three resolutions reported from the Round-Table. We thank you for your interest in this final session of the annual meeting.

MASS MEETING

Under the auspices of the Pilgrim Publicity Association

FANEUIL HALL

Friday night, November 13, 1914

CHAIRMAN

JUDGE MICHAEL J. MURRAY, Boston

ADDRESS

BY THE CHAIRMAN

The problem of infant mortality, considered from the economic and social viewpoints, is one of the recognized great and pressing questions of the day. This problem, old as the human race, still remains of vital concern to all governments. Waste there may be in other directions, but no nation can long permit an excessive mortality among infants without great peril to its own existence. The future of every race depends on a childhood properly developed along sound, physical, intellectual and moral lines. It is a mistaken philanthropy that would leave weak and sickly babies to the law of the survival of the fittest. Time was in certain lands when this view prevailed, but now we have a more sympathetic attitude. From ancient days, when infanticide was practiced among some nations, we have passed to a time, thank God, when religion and science prevail. The people of the United States owe a mighty debt to the American Association for Study and Prevention of Infant Mortality. It seems fitting, therefore, that at this public meeting some expression of appreciation of the great service rendered by its members should be placed on record. The work which it has done and is doing for the United States stands for the finest spirit of patriotism. The individuals engaged in this noble work are citizens of the best type. Boston therefore bids them a most hearty welcome, and its people most sincerely wish it continued success.

To encourage this work of study and investigation, the Federal Government in 1912 established in the Department of Labor a bureau known as the Children's Bureau. The first

annual report of this bureau shows that the actual loss in the United States in 1913 was about 300,000 babies under one year of age, of whom one-half would now be living had we as individuals and communities applied well known measures of hygiene and sanitation. The City of Boston, where upward of 20,000 babies are born every year, among 30 different nationalities, presents many interesting features. About 10,000 of these babies need this sort of assistance every year. The methods include the establishment of stations in needy districts, where pure milk is distributed, and where conferences are held by physicians, babies examined, their food prescribed, and mothers encouraged to nurse them. Graduate nurses visit them in their homes and advise the mother further. Twelve thousand babies were thus cared for between 1909 and 1913, and the death rate reduced 27 per cent. Twelve milk stations have been established in our city, and last year the nurses made 41,000 calls at the homes of Boston babies. Because of the careful and efficient campaign carried on in this city, Boston has gone from seventh place, in 1911, among cities having a low rate of infant mortality, to third place in 1913.

While I have had something to do in the most indirect way with the care and rearing of a few babies in the city of Boston, yet this particular subject is one that usually appeals the average layman. I have seen the infant, in all its utter helplessness, watched over, cared for, prayed for, and looked out for by the mother; and perhaps that experience, which the head of every home enjoys, better than anything else makes him realize that the most beautiful example of devotion in the world is to be found in every home where the mother watches over, cares for, rears, sees her children develop under her own kindly, loving, affectionate eye. And so there seemed to me something particularly forceful in a suggestion in one of the Association's reports—the importance of teaching and impressing upon mothers the great value, where nature permits it, of nursing their own children. For it not only presents one of the sweetest of all human spectacles, but it is sure to bring the little infant in its early hours in close contact with that personage whom the Creator of the universe marked out for and intended to be the greatest influence in the regulation and nurture of all infants—the mother.

I wish to emphasize to my fellow-citizens in and about Boston the fact that in the work done in our city last year, well done, economically administered, \$22,000 in cold cash was required. So many of us who can give no particular service in this great field can help those who are ready to make this great

and splendid sacrifice, by not forgetting that in our individual pockets is something which belongs to these little babies. They are to be the future fathers and mothers of this land, and the character of their service when they reach manhood and womanhood is to be somewhat determined by the kind we give them now. I wonder how many of us have ever stopped to think that some of the greatest minds in the world, when they started on their journey to the stars, were sickly and weak bodily in their infant years. Newton and Webster were of this class. I mention that not only to remind us of what the world might have lost if someone had failed to care for those men in infancy.

ADDRESS

**ALLEN J. McLAUGHLIN, M. D., Secretary, State Board of Health,
Boston**

As a health officer I have not failed to appreciate the enormous importance of infant mortality, and all health officers, in their first duty of study of the mortality of their province, find that no subject looms larger than this. We all recognize that prevention is infinitely better than cure, from the standpoint of preventive medicine especially. In order to have this prevention we must go back farther than the individual case. So in preventing infant mortality we must go back to the care of the mother months before the baby is born. We must see that the mother has proper care during childbirth and that the child has proper medical supervision during the first few months of its life.

It is interesting to note the evolution of the methods used in the prevention of infant mortality, from the time when we devoted all our attention to the improvement of the milk supply, hoping to obtain miraculous results. We found that 10 per cent of the deaths of infants occurred in the first day, 25 per cent in the first week, 38 or 40 per cent in the first month, and largely these were due to causes existing in the child or mother previous to birth. Now nearly all agencies are directing their efforts in this direction.

I am happy to say that in this great problem there is a better co-ordination of effort and better cooperation than has ever existed before. Health officers are prone to speak of preventable diseases. We teach the people that these diseases are absolutely preventable—sometimes we fail to

say how far or in what way. A good health officer can prevent disease only up to a certain point. Beyond that he must have the cooperation of the individual citizen. A health department may be nearly ideal, but without the cooperation of the citizens it cannot be really ideal. Nowhere is this more true than in infant mortality. With organized charity, visiting nurses and child hygiene associations, we have the means of visiting the homes, but of what value are they if the individual citizen is in a state of apathy? I want to contrast the receptivity of the German and the American. During the cholera epidemic of 1905 it was my good fortune to be with the German authorities. When the doctor went into an infected town all he had to do to forbid the use of a certain water supply was to put up a placard, "Verboten." If the village blacksmith was told he must not use a certain water supply, he said, "Very well, Herr Professor, that is your business, you know, and I will not use it." Go into an American town and say to the village blacksmith, "That supply is dangerous, you mustn't use it." He would say, "What do you know about it? That water is good, my people have used it for 50 years, and I am going to use it."

Now that attitude is not altogether a disadvantage. The German gives a blind faith; the American demands an explanation, but once given it, he takes his coat off and helps, and that is the kind of cooperation I am going to ask of you, especially in this great, splendid work for the prevention of infant mortality.

ADDRESS

HON. GEORGE W. COLEMAN, President City Council, Boston

We of Boston and the city government are proud of this Association which is visiting in our midst, we are proud of the quality of those who represent its membership, and of the great work you are doing, and we feel that we have a justifiable pride in the work that is being done in Boston along the same line. In three short years we have climbed from a seventh to a third place. But we would call your attention to the fact that this is the city of the Braves, and they started at the bottom of the list and went to the top, and we are traveling along the same path. In 1914, within the 10 months of which we have record, there were 1,675 deaths of children of one year of age or under. The year before there were 1,825, the year before

that 1,874, showing a reduction this year over 10 months of last year of 150, and over ten months of two years ago of 202. And 50 per cent of this splendid decrease was in cases of measles, whooping-cough and diphtheria, and 10 per cent in the cases of diarrhea and inflammation of the bowels. Put in another way, expressing the ratio between the deaths of infants under one year of age and the number of births, the record of 1914 was 99.51 deaths of infants in a thousand births, as against 113.7 in 1913. These are the figures for ten months, and we have the best two months, when the death-rate is apt to be the lowest, still before us, so that the indication is that for 1914 we shall have figures showing as low as 95 or 96.

This splendid result has been accomplished through the work of the Milk and Baby Hygiene Association, through the augmenting of the work of the district nurses with money supplied by the city government, through the Children's Hospital and the Floating Hospital, and through the districting of the milk stations and correlating them with the hospitals so that the same physician will have the care of the child in health and sickness.

We notice that this organization itself is something of an infant, I believe only celebrating its fifth year. Boston is very proud of having the privilege for a week of nursing this infant, and helping it along its way. We have all been greatly struck by the interest which the Pilgrim Publicity Association has taken in an enterprise such as this one in which you are engaged. Some people might be greatly surprised that an organization of advertising men should take any interest whatever in an organization for the study and prevention of infant mortality. This would be especially true judging you by your name. You will never be able to get that name into the public consciousness, and I would suggest that you get some advertising man to rechristen your child and call it the Baby Saving Society, which would be a trade-mark and an asset. I do not think anything will ever cluster about the name you have now except the memories of your Association.

I want to say that this action on the part of the advertising men in Boston is not singular—it is characteristic of the action of the advertising clubs of America, 140 of them. A little while ago I found the advertising club in Rochester, N. Y., engaged in a tremendous campaign to raise \$100,000 for a children's hospital. It is an illustration of the public interest that advertising men, sometimes very much unappreciated, are taking in matters of public welfare; and I speak of this to point out

the fact that a wonderful change has come over the public mind in recent years—a change of emphasis in matters that relate to property and life. Do you realize that 95 per cent of our laws relate to the interest and care and protection of property, and only 5 per cent to the life and happiness of men, women and children? We have got to the time now when we have made such a splendid success in the material and financial world that we are beginning to direct our energies to the conservation of human life.

My mind runs back to a very sad experience, nearly 30 years ago, when I stood at the bedside of a little child, dear to the hearts of all of us. She had been struck down by diphtheria. I saw the fight going on between that child and the terrible spectre which was strangling its life, until little by little the child passed away. Then I contrast that with another experience about seven years ago, when again I stood by the bedside of a beloved little child, and the physician said, "diphtheria," and the tears ran down my cheeks as I thought of that awful struggle of the years gone by. And then I realized that in the years between, something had happened—antitoxin had been discovered. That child is now alive and growing into splendid womanhood.

Miss Julia Lathrop, head of the Federal Children's Bureau, says that of 300,000 deaths of infants, which occur annually in the United States, 150,000 are due to preventable causes. I thought of that, and multiplied those two children I knew by 150,000, and thought of the anguish of their parents, and that gave me some idea of the great work of this society. The babies are the hope of the world. Any group or class or race or nation that will bring the most babies into the world and give them the best attention is sure by all the rules to win the race of life; and when you stop to think of the responsibilities that are resting upon this country, and see what is happening across the water, and realize what may be coming to us in ten years or so, the most serious and vital thing that can concern us is the number of children we are bringing into the world and the care and development and opportunities we give them.

That public health is purchasable, that within certain natural limitations a community can have as low a death-rate as it chooses to pay for, is a familiar statement. It comes to one who has not been intimately engaged in your work with tremendous force. If you engage more and more the powers of publicity to inject into the life of the community a knowl-

edge of what you are doing, and thus open the public purse-strings, there will be some chance of preventing those 150,000 deaths of infants which Miss Lathrop says are preventable.

ADDRESS

HUGH CABOT, M. D., Boston

It is not as a physician that I desire to speak to you tonight, because my relation to this work is not a professional but a private one, precisely the same as yours. There has been a wide-spread tendency to regard the questions of public health as the business of the medical profession. It is not the concern of the professional expert, but of the private individual, whether or not this country is well or badly served in the matter of public health. We shall do well to learn that all public health problems in a democracy must be dealt with in a fashion very different from the methods which are efficient and successful in a more centralized form of government. Such a government is essentially a government of experts, where a comparatively small number decide what measures shall be carried out. Here no such conditions prevail. It is patent to all that the average American has a supreme distrust for expert opinion. Go before any legislature as an expert, if you doubt it. The average man of this country still regards himself as able to pass judgment upon any subject, no matter how abstruse. With this defect goes a certain strength—when you get the average man thinking straight he thinks awfully hard. He doesn't take things for granted, he may reside in Missouri, but when you convince him you can do business with him.

This is not a medical question, it is an educational question. All questions of education, as far as I have been able to learn, go through a more or less regular routine. They begin with the private opinion of one person, then of a group strong enough to try an experiment, then, the experiment having been reasonably successful, it begins to influence public opinion, and then it becomes a matter of public concern and is taken over by the community. That is the evolution which this as well as every other movement must go through. The expert in the early stages advises the group, but his advice is of no value unless it is ultimately taken over by the community.

I have here a notice of the clinics held to demonstrate our work on infant mortality. Almost all are the work of private

enterprise, carried on as experiment stations. They are places where group opinion has been trying to form public opinion. The step from these private efforts to the stage in which the work is really well done lies with you, not with these experts. The work now being done by private endeavor in helping the children, mothers and potential mothers of the city of Boston should not be the work of private enterprise but of the municipality, the state or the county. These private experiments cannot permanently endure—they must either fail or be taken over by the community.

Some of them belong properly to the public health service, some to the hospital department, but a very considerable proportion of them belong to the public school system. A very important part of the prevention of infant mortality is simply education. Probably no part has been so grossly neglected, as the training of women and girls in the care of children. If there is anything under God's heaven which women can do and no one else can do, it is that, but it has been utterly disregarded. If we really believe that the saving of babies is anything more than mere publicity talk, if we really mean business, we shall see that this is made a part of our general educational system.

I really believe that these babies ought to be looked after. We have heard Mr. Coleman's eloquent demonstration of the fact; and there can't be very much doubt of it. It doesn't make very much difference what happens to you or me. We have grown up in our particular form of wickedness and we can't do much more harm. But some of these babies might even amount to something, and do something useful, and it is an even gamble that some of them might be some good. And yet we keep thinking it is the other fellow's business—the board of health's business, for instance, to put a red placard where there is infectious disease. We are apt to be rather offended when we are asked thus just not to kill the other fellow's baby—not to do anything for it, but just not to kill it.

There is only one way to cure disease, and that is to prevent it. The doctors don't know much about curing disease. They stand around on the outside looking wise and the patient gets well—or not. As for the prevention of infant mortality, lots of that lies before the birth, in the care of the prospective mother, in the proper provision for confinement. This is where education, and education alone, will succeed.

ADDRESS

**S. JOSEPHINE BAKER, M. D., Director, Division of Child Hygiene,
Department of Health, New York City**

I want to pay a hearty tribute to the value of publicity in baby-saving, and to the work the Pilgrim Publicity Association has done in bringing the efforts of this Association so forcibly before the Boston public.

Saving babies—that is what we are here to do, and I should like to second the motion for changing the name of our Association and thereby getting closer to the public. There is very little of the human appeal in saying that we are trying to reduce infant mortality. Our work is to save flesh and blood babies, babies that mean something to every home in the land, and that have a genuine heart appeal to every one of us who is at all interested in humanity. Publicity has an immense amount to do with this problem of saving the babies. It is the keynote of our campaign and stands out now as demonstrating in a very vivid way the change that has come over government in its connection with the people. It was commerce that first started the great movement for boards of health, the establishment of which grew out of the injury to trade caused by quarantine against cholera. Health boards at first exercised police powers only. They were purely disciplinary in character. Later, they reached the stage of doing corrective work. By this is meant the waiting until some sanitary law has been violated, or until some epidemic of contagious disease has occurred, and then making an effort to correct the fault after it exists. This method of health work still obtains in a very large part of our country, particularly in rural communities, that have not yet awakened to the immense importance of what may be accomplished in the line of educational public health work. At present our enlightened health departments are proceeding on the theory that the public not only has a right to know what the health department is doing, and why, but that the cooperation of the public is absolutely essential if health work, in its broadest meaning, is to be successful. The most advanced health work of the present day is founded upon the idea of the public health education of the community and, in order to make this education effective, publicity is essential. Education work in health boards may properly be considered to have started with the crusade against tuberculosis in the latter part of the last century. It was realized then that the death rate from tuberculosis could not

be reduced, or the disease itself prevented, without the co-operation of the citizens themselves. The great manifestation of educational and preventive public health work, however, has occurred during the past ten years, and is best typified in this great movement for the saving of child life and child health.

The reason the life of the child is so important, from the public health point of view, is not because any one mother has an individual interest about her individual baby, but because an increase in the death rate of babies in any part of any community is the first sign we have that unhealthful or insanitary conditions exist in that part of the community, and need immediate attention. Mr. Sherman Kingsley of Chicago, has said that "where the little white hearse goes most often is the weakest place in the municipal housekeeping," and it has been said repeatedly, with truth, that "the death rate of babies is the most sensitive index we have of the health of any community." The insanitary and unhygienic conditions that cause infant mortality in any community inevitably react upon the health of every member of that community, therefore you will find that it is not only of importance to the individual mother that her baby be kept well, but it is of importance to every mother that every child and every other person in that town or city, who may be subject to the same general conditions which react first upon the weakest part of our population—the babies—should be kept well.

Last year, Dr. Holt, in his presidential address, said that it is not the unfit, but the unfortunate, baby that dies. We are impressed with the idea of the "survival of the fittest," and this reflects itself in the cynical attitude that finds expression in the statement that a large number of babies would be better off if they did not live. It is this same attitude that expresses itself in the argument that our campaign for the saving of baby lives only results in tiding over the first year, and that these babies either die during the next few years or become a burden to the community, by reason of their physical unfitness. To refute this argument we made a study in New York to determine whether or not we were saving babies through the first year of life only to have them die within the next few years. As a result of this study, which was so comprehensive that it included all births and deaths of children under five years of age for a ten-year period, we found that, not only had the death rate of babies under one year been reduced to a remarkable degree, but that the death rate of children between one and two and two and five had been decreased to an even greater extent. Therefore, we may feel that the

work we are doing is not merely a temporary expedient, but that, if our efforts are really to keep the baby well, we may be sure that this good health will persist not only throughout childhood, but that it will be the basis of health for our next generation.

We must plan our work so that it is not simply the prevention of infant mortality or in any sense simply a movement for preventing deaths, but we must work with the well-defined assurance that the only way to prevent infant mortality is to keep the babies well, and that, only in so far as we do keep the babies well, can we measure our success.

From 1876 until about ten years ago, we had in New York City every summer a corps of doctors who went about, knocking at the doors of tenements, and asking if there were any sick babies. If a sick baby was found the doctor offered his services. The decrease in infant mortality from this effort was negligible. With the establishment of the Bureau of Child Hygiene about seven years ago, we started a campaign of education and purely preventive work, with the object of keeping the babies well. Our objective point was the baby, just as soon as it was born, and the purpose of our work was to see that the baby was brought up in the proper way and not allowed to become sick. There are about 135,000 babies born in New York City each year, and an average of about 60,000 of them each year come under the care of this Bureau. The first year we tried the system of finding out well babies and keeping them well, we had about twelve hundred fewer deaths under one year of age than during the previous year. This reduction has been regular and persistent every year since that time, and last year—1913—there were over three thousand fewer deaths of babies under one year than there were in 1907, the year before we began this work. Our record for 1914 promises to make this reduction still greater. Altogether it means that there have been about eighteen thousand fewer deaths of babies under one year of age during the past five years than there would have been if the death rate for 1907 had persisted.

This work of saving babies is one of the simplest, most direct and easy parts of public health work. It is being carried on in all our large cities, and really the only parts of this country that are lagging behind in this work are the country districts. The need, then, of the future in our infant welfare work is the need of our small towns and villages. Our cities have shown the way and, certainly, the smaller communities

should not be behind in civic spirit. At the present time the baby of the tenement in the city has a far greater chance to live than the baby of the average small town or village. This is the work that most needs our attention.

If I have a message to give you to-night, it is not so much a message from New York City, because I feel that you in Boston have a right to be proud of your remarkable record in baby-saving during the past few years, but I do appeal to you to use this power of publicity in health work to back up your government, to realize that, in the last analysis, the state is the factor that must deal with this problem, and that government means, not only government of the cities alone, but government of the people as a whole, to realize that the problem of saving the babies in the rural communities is the problem of the future. We must realize, as Dr. Cabot has said, that "this is not wholly a medical problem," but a problem of popular education, a social problem, and a great problem of the humanities. We, as a people, must have ideals in regard to our government and express ourselves, through our government, in enforcing these ideals. We must consider that the saving of babies is a community rather than an individual problem, and that publicity, popular education and cooperation are all necessary parts of our success.

ADDRESS

HOMER FOLKS, New York

**President-Elect American Association for Study and Prevention of
Infant Mortality**

I confess I am a little bit staggered by the name of the concern under whose auspices we are meeting. If the Pilgrims have taken up publicity, all I can say is, God help the rest of us. That was a very significant thing that Mr. Coleman said as to the necessity and the value of publicity in social work. I remember going to Philadelphia to attend a very remarkable exhibit on infant welfare, and it struck me as a very sensible thing that they called it a Baby-Saving Show; I was glad that at last they had given the baby a show.

Thinking over the future of this Association, I have been disposed to think that perhaps there is something wrong with the name—that there is a much longer distance from study to prevention than the name indicates. Most of us are disposed

to think that ideas and discoveries may be thrust upon the community and left to themselves to take root and bear fruit. My experience suggests that this is somewhat unlikely to happen, that this is a pretty tough old community, that as a person may acquire immunity to a disease by repeated exposure to small doses, so the world acquires a considerable immunity to ideas to which it is mildly exposed. What we must do next, it seems to me, is to focus attention more sharply on just what has to be done and just who is to do it.

May I give an instance? I happened to have had something to do in New York for a few years with an organization known as the Conference of Mayors of the State of New York, and every year there appeared on the program a formidable paper on home rule. Two years ago one member said when the annual paper on home rule was proposed: "I simply can not live through another paper on the virtues and necessities of home rule. If we must have it, this is what we should have: 'Since we all believe in home rule, why in heaven's name don't we have it?'" And the title went in in practically that form, and now we have as a direct result, an optional city charter, because attention was focused on the actual obstacle. I should be disposed to think that we might phrase some of our topics in this baby-saving business a little that way. For instance, instead of having papers on institutions for babies, why shouldn't we, next year, have this paper: "Since we all know that homes for babies are utterly bad, why don't we abolish them?" Or: "Since it is perfectly clear that we must have registration of births throughout the country, who is it that is responsible for not having it?" If we can focus attention in this way on the things to be done in our respective communities and whose duty it is to do them, I am disposed to think we shall get ahead faster.

One phase of the subject seems to deserve more careful study and, if possible, definite action. I should like to call it the bread and butter side of baby-saving. We have now in New York attacked the rural and small city problem. In 1913 we created a Division of Child Hygiene in the State Health Department; the best man in the state was put at the head of it; and all through the state there are springing up infant welfare stations. I picked up today one of the leaflets which that department is distributing by hundreds of thousands. Let me read a few things from that leaflet:—"Before the Baby Comes:—" "A nervous, overworked mother cannot expect to have a strong, vigorous, healthy baby. An extra amount of sleep and daytime rest of an hour or so is desirable. Much

climbing of stairs and the use of the sewing-machine should be avoided during the later months. Hard household and factory work is undesirable. Expectant mothers must have plenty of nourishing food—all kinds of soup, meat once a day, eggs freely, one or two every day, all kinds of green vegetables, fruit to be taken in plenty, with plenty of milk or buttermilk or cocoa." That is, no doubt, perfectly correct, scientifically, but I couldn't help wondering how that must read to the expectant mothers in our factory towns. It reminded me of the advice we used to give to tuberculosis patients, when the poor man who was unable to work came in and we told him tuberculosis was perfectly curable; it only needed three square meals a day, absolute rest, freedom from worry, sleeping out of doors, etc. He might as well have been told to take a trip to the North Pole. We have to face the fact that this baby-saving business means money, and means interference with the ordinary methods of earning money, and that interrupted earnings have to be made up somehow if the baby is going to be saved. In other words, we must study maternity insurance, and the many economic aspects of baby-saving before we shall really get so very far toward our ultimate result.

And let us always keep before our minds this further subject which I conceive to be our real purpose, that is to improve the lot of all the children of the community. I have been very, very much impressed with the extent to which physicians and others in studying the prevention of diseases keep tracing things farther and farther and farther back. Many instances of at least two very serious diseases seem to be traced clear back to childhood—tuberculosis and mental disease, the seeds of both of which in many cases are now believed to be sown very early in life; and I have no doubt that as medical science becomes more and more exact we shall trace many other of those slowly developing conditions back into the very early years of life. This baby-saving work is calculated to raise the standards of health, vigor, and efficiency of the entire community; not simply to save the babies but to make them more worth saving, the representatives of a more virile, wholesome, efficient, moral and long-lived race. The old saying is, "As the twig is bent, so the tree inclines." I would like to tie up to that another one: "The inclined tree falls before its time." In trying to keep the twigs straight we are contributing not only to an upstanding, but also to a longer-lived race.

ADDRESS

**J. RANDOLPH COOLIDGE, Jr., President, Chamber of Commerce,
Boston**

I congratulate the Association and its able ally, the Pilgrim Publicity Association, on the happy thought that prompted a meeting in this historic hall, for the Cradle of Liberty suggests to me the finest instance of prevention of infant mortality in all recorded history. The infant that was nurtured by our forefathers in this cradle is the idol of a hundred million today.

I seem to see the object of your able effort in the form of finding out what most people are doing with their babies and telling them to stop. I trust they will hearken in time. The organization of public opinion, which is the object of the Boston Chamber of Commerce, can bring some influence to bear in that direction also, for we have our committee on public health laws and their enforcement, and we, too, are concerned with the prevention of infant mortality. Accepting the doctrine of the survival of the fittest, we hold ourselves utterly unable to decide who the fittest are, and would therefore give every struggler as good a chance as we can. Who can tell where genius may be found? I hold that the spectacle of this representative Association in America striving to combat one form of infanticide is an edifying contrast to that of other countries engaged in systematic and almost unlimited homicide from the highest motives. If it be true that one-half the babies that now die annually may in the future be saved to grow up, it is encouragement to our organization, for we have a membership campaign on at this moment, and we shall profit by your efforts in thirty years.

GENERAL SESSION

Friday, November 13, 1914, 9.30 A. M.

THE PRESIDENT, DR. J. WHITRIDGE WILLIAMS, IN THE CHAIR

REPORT ON PASTEURIZATION OF MILK

COMMITTEE

DR. S. McC. HAMILL, Philadelphia, Chairman

DR. M. J. ROSENAU, Boston

DR. WM. H. PARK, New York

DR. W. W. FORD, Baltimore

DR. W. C. WOODWARD, Washington, D. C.

Dr. Hamill: At the last meeting of the Association the following preamble and resolutions were submitted to the Association by the Committee on Resolutions:

WHEREAS, It is the almost universal opinion of Federal, State and Municipal authorities, as well as of all others who have given special attention to the study of the milk problem that market milk in its raw state may be dangerous as food and that pasteurization, under proper conditions, renders such milk safe

WHEREAS, It is common experience that many homes, hospitals, asylums, etc., are very careless as to the supervision of their milk supplies

THEREFORE, Be It Resolved: That all market milk be regarded as unsafe for use in its raw state, and, until it is properly pasteurized under competent official supervision before its distribution to the consumer, that it be either pasteurized or boiled in the home of the consumer, or, when supplied to hospitals, asylums or other institutions, that it be pasteurized under proper supervision before it is used as food.

AND BE IT FURTHER RESOLVED: That owing to the possibility of certified milk, produced under the most careful conditions, being contaminated by so-called "carriers" and pathogenic bacteria, even certified milk is rendered safer by pasteurization.

Owing to the small attendance at the session of the meeting at which the Committee on Resolutions reported, and because there was opposition to the resolutions as submitted, it was moved by Dr. S. Josephine Baker "that the consideration of this resolution be postponed until the next meeting." The following substitute motion was made by Dr. William Woodward and accepted by Dr. Baker: "That the entire matter be referred to a committee of five, to be appointed by the President, to investigate and report at the next meeting with respect to the use of

raw, pasteurized and boiled milks." This motion, after discussion, was carried, and the Committee which submits this report, was duly appointed—Dr. M. J. Rosenau, Dr. Wm. H. Park, Dr. Wm. C. Woodward, Dr. W. W. Ford and Dr. S. McC. Hamill, Chairman.

This committee has been in correspondence throughout the year, and we have taken up every phase of this problem. As you know, Dr. Rosenau and Dr. Park, two members of this committee, have been working along the development of certain phases of this problem for many years. Dr. Ford of Baltimore has also been very much interested in the problem and the results of the work of Dr. Rosenau and Dr. Park have in a large part influenced the attitude of the country in respect to various phases of this problem. Dr. Ford has been doing some work in which he feels that he has obtained results which are somewhat different from the results which have been commonly reached by men working along these lines; so that the committee, after a very prolonged discussion, finally agreed unanimously to submit this recommendation or statement:

After a careful study of the recommendations that have been made by the Public Health Service, the American Public Health Association, and by the Committee appointed by the New York Milk Committee, together with a consideration of the views of individual experts, and the methods of milk control that have been adopted recently by the leading cities of the United States, your Committee concludes that any organization desiring to take a position before the public on the milk question, would do well to follow the commendable example of the American Public Health Association by endorsing the work of the splendid National Commission on Milk Standards appointed by the New York Milk Committee. This National Committee is composed of the foremost experts on milk production, transportation and handling that the country contains, most of them being men who have been engaged in the study of these problems for many years. They adopt no recommendation upon which there is not unanimity of opinion. It seems entirely unlikely, therefore, that any other organization or group of individuals is better qualified to pass a final judgment upon these questions.

I have the final report of this committee (The New York Milk Committee), which is composed of the following members:

Dr. W. A. Evans, Professor of Preventive Medicine, Northwestern University; Health Editor, Chicago Tribune, Chairman

Dr. John F. Anderson, Director Hygienic Laboratory, United States Public Health Service, Washington, D. C., Vice-Chairman

Dr. B. L. Arms, Assistant, Department of Biology and Public Health, Massachusetts Institute of Technology, Boston

Prof. H. W. Conn, Director Bacteriological Laboratory, Connecticut State Board of Health; Department of Biology Wesleyan University, Middletown, Conn.

Dr. E. C. Levy, Health Officer, Richmond, Va.

Dr. A. D. Melvin, Chief, Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

Dr. William H. Park, Director of Laboratories, Department of Health New York City; Professor of Bacteriology and Hygiene, New York University, New York City

Mr. Raymond A. Pearson, President State College of Agriculture, Ames, Iowa

Dr. M. P. Ravenel, Director Hygienic Laboratory, University of Wisconsin, Madison, Wis.

Prof. M. J. Rosenau, Department of Hygiene and Preventive Medicine, Harvard Medical School, Boston, Mass.

Mr. Chester H. Wells, Health Officer, Montclair, N. J.

Prof. Henry C. Sherman, Department of Chemistry, Columbia University, New York City

Dr. L. L. Van Slyke, Department of Chemistry New York Agricultural Experiment Station, Geneva, N. Y.

Dr. Charles E. North, Consulting Sanitarian; member of New York Milk Committee, N. Y., Secretary.

Dr. J. N. Hurty, Secretary State Board of Health, Indianapolis, Indiana

Dr. Joseph S. Neff, Director Department Public Health and Charities, Philadelphia, Pa.

Dr. John S. Fulton, Director State Department of Health, Baltimore, Maryland.

The President: What is the pleasure of the meeting in regard to this report on milk?

A Member: Mr. Chairman, there seems to be some doubt as to what recommendations this committee of the New York Milk Committee have made. Can we obtain from the speaker a summary of these recommendations?

Dr. Hamill: The New York Milk Commission has had five meetings. They adopted tentatively at the original meeting certain requirements covering the problems of milk production and distribution, and at each successive meeting reconsidered various phases of these problems, and the report I have in my hand gives the latest. It is a very long report and I shall read only the part containing the classification which they recommend.

The Member: What we would like to know is just exactly what they recommend in the matter of pasteurization.

Dr. Hamill: They have made the following classification: "It was resolved that the classification of milk contained in the first report of the commission be amended as follows:

Milk shall be divided into three grades, which shall be the same for both large and small cities and towns, and which shall be designated by the first three letters of the alphabet. The requirements shall be as follows:

GRADE A

Raw Milk.—Milk of this class shall come from cows free from disease as determined by tuberculin tests and physical examinations by a qualified veterinarian, and shall be produced and handled by employees free from disease as determined by medical inspection of a qualified physician, under sanitary conditions such that the bacteria count shall not exceed 100,000 per cubic centimeter at the time of delivery to the consumer. It is recommended that dairies from which this supply is obtained shall score at least 80 in the United States Bureau of Animal Industry score card.

Pasteurized Milk.—Milk of this class shall come from cows free from disease as determined by physical examination by a qualified veterinarian, and shall be produced and handled under sanitary conditions such that the bacteria count at no time exceeds 200,000 per cubic centimeter. All milk of this class shall be pasteurized under official supervision, and the bacteria count shall not exceed 10,000 per cubic centimeter at the time of delivery to the consumer. It is recommended that dairies from which this supply is obtained should score 65 on the United States Bureau of Animal Industry score card.

The above represents only the minimum standards under which milk may be classified in Grade A. The commission recognizes, however, that there are grades of milk which are produced under unusually good conditions, in especially sanitary dairies, many of which are operated under the supervision of medical associations. Such milks clearly stand at the head of this grade.

GRADE B

Milk of this class shall come from cows free from disease as determined by physical examinations, of which one shall be made each year by a qualified veterinarian, and shall be produced and handled under sanitary conditions such that the bacteria count at no time exceeds 1,000,000 per cubic centimeter. All milk of this class shall be pasteurized under official supervision, and the bacteria count shall not exceed 50,000 per cubic centimeter when delivered to the consumer.

It is recommended that dairies producing Grade B milk should be scored and that the health departments or the controlling departments, whatever they may be, strive to bring these scores up as rapidly as possible.

GRADE C

Milk of this class shall come from cows free from disease as determined by physical examinations and shall include all milk that is produced under conditions such that the bacteria count is in excess of 1,000,000 per cubic centimeter.

All milk of this class shall be pasteurized or heated to a higher temperature, and shall contain less than 50,000 bacteria per cubic centimeter when delivered to the customer. It is recommended that this milk be used for cooking or manufacturing purposes only.

Whenever any large city or community finds it necessary, on account of the length of haul or other peculiar conditions, to allow the sale of Grade C milk, its sale shall be surrounded by safeguards such as to insure the restriction of its use to cooking and manufacturing purposes."

The Member: I understood from your first statement that this commission had recommended the pasteurization of all milk, and we were asked to endorse that same position, but I do not gather that from what you read.

Dr. Hamill: I don't think I said that; surely I did not intend to.

The President: The question before the meeting is this: That the committee asks us to endorse, or recommend the endorsement of the work of the National Committee on Milk Standards appointed by the New York Milk Committee.

Dr. Hamill: I think that report reads—if this society wants to go on record.

The President: The question is whether you wish to go on record as endorsing these standards or not. Will some one make the motion that this society shall take that stand?

(It was moved and seconded.)

The Member: Do I understand the standards to which you refer include the pasteurization of all milk?

Dr. Hamill: I will read them again; it seems to me it is very definitely stated.

(Reads the classification again.)

The Member: Pasteurization does not therefore apply to all grades of milk?

Dr. Hamill: All but Grade A.

The Member: As we understand it as read all grades except Grade A are to be pasteurized; are we correct?

The President: Grade C is not to be fed to humans except after cooking.

Dr. Henry L. Coit, Newark: There is no reference to any other grade which is to be excluded from pasteurization except Grade A; no reference is made to any other grade which might be considered higher than Grade A. It includes certified milk but does not say so.

I do not wish to take up your time, and do not know that I ought to discuss this matter from my point of view. I have some convictions with reference to the pasteurization of milk. From some recent developments, if I get to the infant-welfare department of Heaven I suppose I ought to eliminate milk from my program as a crusader, but I declare I have no such intention.

I wish you would permit me to state what I consider the fundamental principles underlying this question of milk. Three of them apply to its production; three of them to its collection; and three apply to the supervision. The first one is education, and this principle includes them all in some degree. However, education as applied to the producer is the most important of all, because education is the fundamental principle that will give us all things better than what we have.

Then encouragement is another thing applied to the producer; and if you don't encourage the producer, but continue to discourage him by innuendo, insinuation and law you are going to fail. The third principle is endorsement. That is to be done by official and professional bodies and associations.

Then the three principles as applied to collection are cleanliness and caution—applied to everything—and control. Control is of several sorts. We have the control of legislation, but I do not think legislation is going to cure unsafe and dirty milk; I do not think ordinances are going to do it, but I believe that contract is, and the program I am more or less responsible for, together with 400 or 500 physicians in these medical milk commissions is to pursue the line not of legislation and ordinance, but of contract, control—of methods.

Now the three principles which would be applied to supervision are dairy hygiene and biological control, which includes chemical and

bacteriological investigations, and the application of the principle of prophylaxis to the animals and to those persons handling and distributing the milk.

These nine principles, it seems to me, cover in a comprehensive way this whole question. I do not believe anything we can do with heat is going to cure this trouble; I believe we have got to apply these nine principles and get clean milk as the initial thing, and then we can do what we please with it.

Now as to this particular question, I stand, and those associated with me, for medical milk commission control, which applies all these nine principles. I do not believe medical milk commission control is the final solution of this problem of clean, safe milk. While it is the most exacting system of getting milk from the animal to the consumer, something else needs to be done in order to make it always safe. In the larger proportion of the cases where I employ milk in my clinical work I find it necessary to apply heat to it. I use many degrees of heat, and I have eliminated from my parlance the term "pasteurization." I think it is a misleading term. I have substituted the word "refined." We refine gold and a lot of things, and I believe we can refine milk. Fire is the best purifier, and when we apply heat to milk we can make it better for our purposes, and prevent the dangers from tubercle bacilli, streptococci and other pathogenic germs.

I am driven to the conclusion that we must often cook milk. Pasteurization is playing with this problem, and I do not believe an association of this kind ought to voice its approval of the pasteurization of all kinds of milk. In Europe everybody cooks milk.

This matter of pasteurization is still unsettled, and I do not believe its value is scientifically established. I say to a woman, "I want you to refine this milk at 150, 167 or 210 degrees, or at the boiling point of milk." In Amsterdam, some years ago, I saw the whole city's milk supply go through sterilization, where every drop sold was heated to 102° Centigrade, which is above the boiling point of water. I said to the Health Commissioner: "Do you mean to say that every bit of milk in Amsterdam is cooked that way," and he said, "yes, because otherwise from the dykes of Holland we would have an epidemic immediately." I have nothing further to say except that I think the solution of this problem is to educate people to do their refining and boiling of milk at home.

Dr. Hamill: Do you boil milk after you have prepared your modification to give the child?

Dr. Coit: Yes.

Dr. J. H. M. Knox, Baltimore: On the question of raw pasteurized and boiled milk do we want to put ourselves on record as recommending any particular phase of the milk question until it has been settled as to just what is the effect of using boiled milk? I think some unpublished research work seems to indicate that an unknown body—nobody knows its composition—which stimulates growth is not affected by boiling of the milk.

Dr. Henry M. Bracken, St. Paul: I think it would be a mistake for us to endorse those grades of milk. They may be good grades for a city milk supply, but low grade as a general proposition. I should be very sorry to see this association put itself on record.

Another Member: Is there a standard for the pasteurization of milk? It means so many things in the different communities.

Dr. Hamill: Pasteurized milk is milk (reading) that is heated to a temperature of not less than 140° Fahrenheit for not less than 20 minutes, or not over 155° Fahrenheit for not less than 5 minutes, and for each degree of temperature over 140° Fahrenheit the length of time may be 1 minute less than 20. Said milk shall be cooled immediately to 50° Fahrenheit or below and kept at or below that temperature.

The President: The question before this meeting is—Shall the standard of the National Commission on Milk Standards appointed by the New York Milk Committee be endorsed or not?

(On a rising vote the result was by a large majority in the negative.)
Meeting adjourned.

**AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF
INFANT MORTALITY**

1211 Cathedral Street, Baltimore, Maryland

**Outline for Report of Affiliated Societies for Year Ending
October 1, 1914**

Reports were asked for in accordance with Article X of the By-Laws. The headings given below were intended to be suggestive only, and the Affiliated Societies were asked to include description of activities which have an important bearing on their work but which were not scheduled in the outline. Unless otherwise designated, the statistics are for the year ending October 1, 1914. Marginal figures in the reports which follow refer to corresponding ones in the outline:

- I. Give full name and address of your organization.
When was your Association organized?
- II. Outline growth and development of your work.
What branches of infant welfare work are carried on by your Association?
Prenatal.
Where do you get the cases?
Average length of time mothers are under your care.
How often are mothers visited?
What effect has the prenatal work had on
 - a. the ability of the mothers to nurse their babies?
 - b. the weight or general condition (health) of the babies?Are you making special efforts to insure breast-feeding?
Postnatal.
Instruction of mothers in care of well babies by means of
house to house visits;
weekly conference, with doctor and nurse at some central place (individual instruction)
Classes for mothers (held how often)
Care of sick babies
house to house visits
refer to special hospitals.
What arrangements do you make for the distribution of milk—whole or modified—for the babies for whom bottle feeding is a necessity?
- III. Is your work carried on all the year round or during the summer months only?
Can you give any statistics to show what effect it has had on the infant sickness or mortality in your city or town?
- IV. How large a staff of nurses and doctors do you employ?
nurses—
doctors—

- V. How is your work organized—is your city or town districted, with a nurse or nurses in charge of each district, the whole work being supervised from some central point?
What is the average number of babies under the care of each of your nurses?
What is the starting point for your work? That is, do you reach your cases through the birth records, medical dispensaries, obstetrical clinics, visiting nurse associations, social settlements, etc.
How many mothers do you reach each year? If convenient, give figures for the year ending October 1, 1914. How do these compare with those of preceding years?
How many babies do you care for each year? Give figures for year ending October 1, 1914. How do these babies compare with those of preceding years? What limit is there to age of children reached by your Association?
- VI. Is your organization the only one in your city that is engaged in baby welfare work?
If there are any others, please name them. What arrangements do you make for federation or cooperation?
- VII. Are you concentrating, in your work, on the mothers of very limited means, or are you making any effort to reach and instruct young, but inexperienced mothers who may be more favorably situated financially?
- VIII. Is there any correlation of your work that of the Department of Health; with any hospital; visiting nurse association; charity organization; or any other organization engaged in social work in your city?
- IX. How is your work supported? by private charity?
Any appropriation from City or State?
What is amount of your annual budget?
- X. What is the total population of your city or town?
Total number of births for year ending October 1, 1913?
Total number of births for year ending October 1, 1914?
Total deaths under one year of age for year ending Oct. 1, 1913?
Total deaths for one year of age for year ending Oct. 1, 1914?
- XI. Is your city in the registration area for births—that is are the returns from births accepted as approximately complete by the Bureau of Census?
Your public health officer will probably be glad to give you this information.
- XII. What do you consider your most effective branch of work?
What do you consider your most difficult problem, leaving out of consideration the ever-present one of raising funds?

AFFILIATED SOCIETIES

REPORTS

For the Year Ending October 1, 1914

ALABAMA

INFANT WELFARE SOCIETY

Birmingham

July 15, 1914—October 1, 1914

Mothers instructed.....	396
Prenatal care given.....	27
Sick babies cared for.....	77
Reported to Health Department.....	10
Reported to Associated Charities.....	36
Referred to U. Dispensary.....	22
Sent to Children's Hospital.....	14
Time at H. D.....	169 hours
Hours on duty.....	532 "
Reported to Juvenile Court.....	2
Calls made in reference to work.....	122
Referred to Metropolitan Nurse.....	13
Cases of ophthalmia.....	8
White babies cared for.....	418
Colored babies cared for....	163
Visits to Hillman Hospital.....	11
Mothers' clubs organized.....	4
Total expenses of work.....	\$136.60

CORA M. SANFORD, R. N. Secretary.

CANADA

THE BABIES' DISPENSARY GUILD (Incorporated)

Hamilton, Ontario

I. Organized June, 1911.

II. Cases come to use through our mothers principally, through family physicians, through advertising in the daily press and as result of the "Mothers' Letter," which is sent to each mother, whose baby's birth is registered at the City Hall. The average length of time mothers are under care is hard to estimate, some of them remaining in touch with the Dispensary from the time the baby is three weeks until he is two years old, others never come to the Dispensary a second time, although these cases are few in number. The average time might be said to be about six months. Mothers are visited twice a month, more frequently at first and if the baby is not doing well, etc. The small

amount of prenatal work that has been done among our mothers has shown splendid results in the ability of the mothers to nurse their babies. About 50 per cent can nurse the baby entirely, and the rest partially. Breast-feeding is held up to the mothers as the ideal, and the number of breast-fed infants in attendance at the Dispensary is gradually increasing. About 34 per cent of total number are either entirely or partially breast-fed.

Our mothers are instructed in the care of their babies by weekly conferences with the doctor and nurse at the daily clinics, individually and by home visitations. Classes are held for the mothers at the Dispensary to instruct new mothers in the preparation of their baby's food, the size of the class depending on the number of new cases admitted at the former day's clinic. During the winter months weekly classes were held to give instructions in cutting out and making infants' garments. Simple talks were also given by the nurses in prenatal care, personal hygiene and practical demonstrations of the bathing, dressing, etc., of the baby. Sick babies are referred to the family physician or to the City Hospital, the visiting nurse making more frequent visits to assist the mother in carry out the doctor's orders, if the baby remains in the home.

Whole certified milk is delivered to the homes and is there prepared by the mothers according to the doctor's orders and the nurse's instruction, the visiting nurse making sure that the mother has understood the demonstration of the making of the food at the Dispensary. In out-lying districts various grocery stores have kindly consented to act as depots for the milk, the mothers calling there for it. No milk is prepared at the Dispensary except casein milk of Meyer and Finklestein's formula, the mothers call for this daily at the Dispensary as the period of time that the baby is on this food is generally not longer than a few weeks.

III. The work is carried on continually throughout the year, but is devoted entirely to gastro-intestinal disturbances.

DEATHS FROM GASTRO-INTESTINAL DISTURBANCES

1910—500 per 1000 deaths to three years
1911—285 per 1000 deaths to three years
1912—248 per 1000 deaths to three years
1913—237 per 1000 deaths to three years

IV. October 1, 1913-July 1, 1914—Number of nurses employed, 2
July 1, 1914-September 15, 1914—Number of nurses employed, 3, with a substituting nurse when necessary for busy afternoon clinics since September 15, 1914. The Dispensary medical staff is appointed by the Medical Board, but the services of the doctors are entirely voluntary. There are sixteen on the staff; the term of service is three months, each doctor attending the clinics one day a week during his term.

V. The city has not been divided into districts as yet, one nurse doing practically all the visiting, being assisted during the summer months by the extra nurse, and during the winter months by the supervising nurse, if necessary, thus the total number of babies in active attendance at the Dispensary are under the care, as far as visiting is concerned, of one nurse.

During the year ending October 1, 1914, 430 mothers were reached by the Dispensary.

During the year ending October 1, 1913, 415 mothers were reached by the Dispensary.

During the year ending October 1, 1912, 296 mothers were reached by the Dispensary.

During the year ending October 1, 1914, there has been an average of 155 babies under care per day, this is a slight increase over other years.

Three years was the age limit until a year ago, now two years is age limit.

VI. The Babies' Dispensary Guild is the only organization engaged in baby welfare work except that incidentally done by the Victorian Order nurses. In their obstetrical work they refer cases to the Dispensary frequently.

VII. The work of the Dispensary is for mothers of limited means, and only such mothers are allowed to attend the Dispensary for any period of time, but when we find a case that needs education, primarily, we are glad to give all needed instruction, keep the mother on the visiting nurse's list for some time, but refer the case to the family physician for feedings and allow the mother to pay retail rates for anything in the way of supplies that she obtains through us.

IX. The Babies' Dispensary Guild is an incorporated society supported by private charity, including membership fees, donations and bequests. A grant of \$300 was given by the provincial government as an encouragement for the work during its first year, 1911, and a civic grant of \$300 has been given annually. Since December, 1914, a portion of the Out-Door Department of the City Hospital has been at the disposal of the Babies' Dispensary for clinic purposes, free from rent, heating, lighting or cleaning, also a section of the Diet Kitchen of the Hospital for demonstrations and a section of the cellar for storage.

X. Population of city, 1913—100,500.

Total number of births for year ending October 1, 1914—2,867.

Total number of births for year ending October 1, 1913—2,078.

Total number of deaths children under one year for the year ending October 1, 1913—519.

Total number of deaths children under one year for the year ending October 1, 1914—390.

XI. Hamilton is in the registration area for births, with a penalty if the birth is not registered within thirty days. The returns from births are accepted as approximately complete by the Bureau of Census, but there are such a number of even the small percentage that the Dispensary controls, of the babies born in the city, whose births are not registered, that the return of births must be far from complete. This matter is always brought to the attention of the mother.

XII. Home visiting by the nurses, we consider the most effective branch of the work; holding the interest of mothers whose babies have been sick when they first came to the Dispensary and then become well. In other words, making the public understand that the Dispensary is a place to keep babies well and not, especially, for sick babies. is our most difficult problem.

Dispensary Report, October 1, 1913—October 1, 1914

Previous number on record.....	733	
Number admitted during year.....	408	
		<hr/>
Present number on record.....	✓	1,411
Number of cases re-admitted.....	39	
Number of cases interviewed, not admitted.....	31	
DISPOSAL OF CASES—		
Sent to family physicians.....	7	
Sent to City Hospital.....	27	
Discharged, cured.....	170	
Discontinued, mainly for non-attendance at clinics.....	159	
Deaths (from gastro-intestinal troubles, 4).....	8	
		<hr/>
		371
CLINIC ROLL—		
Previous number on clinic roll.....	139	
Present number on clinic roll.....	218	
Total number under care per day during year.....	56,036	
Average number under care per day during year.....	155	
CLINIC ATTENDANCE—		
Total daily attendance at clinics.....	2,964	
Average daily attendance at clinics.....	11	
MILK DELIVERY—		
Certified milk (quarts).....	17,010	
Specially prepared milk (quarts).....	1,862	
NURSES' VISITS—		
New visits for investigation and instruction.....	412	
Special nursing visits.....	132	
Visits on cases referred.....	66	
Re-visits	2,466	
		<hr/>
		3,076
CASES REFERRED—		
To family physicians.....	45	
To Out-Door Department of City Hospital.....	22	
To City Hospital.....	2	
To school nurses, families.....	2	
To T. B. Dispensary.....	4	
To Children's Aid Society.....	1	
To City Relief Officer, families.....	5	
To City Health Officer, families.....	1	
To Township Relief Officer.....	1	
To National relief societies.....	19	
To special relief societies, churches, etc.....	32	
To Red Cross Society.....	32	
To confidential exchange.....	126	
		<hr/>
		292
FREE MILK AND SUPPLIES (since Jan. 1, 1914, only)—		
Milk, certified (quarts).....	1,426	
special, albumenized, etc. (quarts).....	147	
dairy, for nursing mothers (quarts).....	35	

Supplies—Feeding bottles, 139; feeding nipples, 38; brushes, 7; barley, etc., 4^{rs}

HELEN N. W. SMITH, *Supervising Nurse.*

CONNECTICUT

THE INFANT WELFARE ASSOCIATION OF NEW HAVEN

The Infant Welfare Association of New Haven was organized in 1908 as a sub-committee of the Consumers' League of Connecticut, in order to show the value of providing for babies a pure milk supply. It was then called the Pure Milk Committee. Four years later this Committee, having outgrown its original purpose, changed its title and reorganized as an independent association in close cooperation with the Visiting Nurse Association, whose nurses it employs. It now not only supplies pure milk during the summer but also gives help and instruction to the mothers in the care of their babies and prenatal care to as many as its income permits.

The prenatal cases are obtained from doctors and various organizations. The mothers are visited every fortnight for five or six months: the effect upon them and their babies has been very good. Breast-feeding is insisted upon wherever it is possible.

For the postnatal work four depots are maintained. To these the mothers bring their babies for weekly conferences with the doctors and nurses. At each certified milk is sold which they prepare in their own homes according to instructions. The nurses supervise in the homes the preparation of the milk and the general living conditions, visit the sick babies and refer special cases to other institutions. The baby-feeding is considered the most important part of the work. In the summer season four doctors, four nurses and two assistants are employed. There are four districts with a nurse and doctor in each under the supervision of the head nurse. Each nurse has about seventy babies under care. The cases are secured through the Visiting Nurse Association and the four organizations at which the depots are maintained—the City Dispensary, two social settlements and a church. From October, 1913, to October, 1914, the enrollment was 686. The age limit is about two years. During the winter the number of cases is lessened, the sale of milk discontinued, only two conferences maintained and but one nurse employed, on part time.

This organization is the only one in the city engaged in baby welfare work.

The annual budget of \$2,500 is raised by private subscription.

The city is in the registration area for births.

The total population of New Haven in July, 1914, was..	143,836
Total number of births for year ending October 1, 1913..	3,974
Total number of births for year ending October 1, 1914..	4,158
Total deaths under 1 year of age for year ending October 1, 1913.....	373
Total deaths under 1 year of age for year ending October 1, 1914.....	417

CORA W. SMITH, *Secretary.*

ILLINOIS

INFANT WELFARE SOCIETY OF CHICAGO

I. Organized in 1907 and reorganized in 1910.

II. Seven new stations and nine nurses added during 1914. Our work is carried on through infant welfare stations, at which mothers' conferences are held twice a week.

Prenatal: The society has not been able to undertake any organized prenatal work owing to the fact that the development of infant welfare stations has required all of our energy and resources. Nurses who come in contact with expectant mothers give prenatal instruction, which we are sure has been beneficial. We are making special efforts to insure breast-feeding.

Postnatal: Instruction of mothers in care of well babies by means of individual instruction.

Classes for Mothers: In cooperation with the Child Welfare Committee of the Woman's City Club, classes for mothers have been started, instruction being given on the care of the child from two to six years of age. These classes are held once in two weeks, and are being conducted by volunteers from the Woman's City Club, and are held at our infant welfare stations.

Care of Sick Babies: By house-to-house visits and by referring to dispensaries and hospitals.

Distribution of milk for the babies for whom bottle feeding is a necessity. A good quality of whole milk is delivered to the home and mothers are instructed by nurses as to modification.

III. Our work is carried on all the year round. We are not able to give accurate statistics showing the effect of our work on the infant sickness or mortality in our city, due to the fact that we have an inadequate birth registration. Our statistics show only the result of the work for the infants under our care.

IV. Staff: Nurses, 22; doctors, 21.

V. Only a part of the city has been districted with a nurse in charge of each district and the work is being supervised from a central point. The average number of babies under the care of each of our nurses is 150.

We reach our cases through the birth records, medical dispensaries, obstetrical clinics, visiting nurse associations, social settlements, etc. During 1913 we cared for 3,678 babies. From January 1 to October 1, 1914, we cared for 6,484 babies. From January 1 to October 1, 1913, we cared for 3,222 babies. Two years is the age limit.

VI. In addition to the work that is done by our Association, three stations are maintained by the Health Department and some work is done by school nurses. House-to-house visiting is done by the school nurses during the summer.

There is very excellent cooperation between all existing agencies, and particularly with the Health Department in relation to its infant welfare work, both organizations outlining their districts and each adhering to its boundaries.

VII. Our work is among mothers of limited means.

IX. It is supported by private charity; no appropriation from city or State. Our annual budget amounts to \$40,000.

X. The total population of Chicago is about 2,500,000.

XI. Chicago is not in the registration area for births.

MINNIE H. AHRNS, R. N., *Superintendent.*

MOTHERS' AID OF THE CHICAGO LYING-IN HOSPITAL AND DISPENSARY

Organized 1900.

The Mothers' Aid is a club organized for the purpose of aiding the Chicago Lying-In Hospital to establish its ideals for obstetrical practice and teaching. It has built a maternity hospital embodying these ideals. It has striven to educate the public as to the importance of skilled obstetrical care, for the safety of the mothers as well as for that of the children. The Club employs two social workers who give prenatal and postpartum care (in addition to the medical and nursing care given by the doctors and nurses). Our "Civics" department was founded to secure legislation that would better the condition of child-bearing women.

Mrs. F. W. WITKOWSKY.

EMMA MATTHIESSEN CHANCELLOR MEMORIAL INFANT WELFARE STATION

La Salle

Report of the Work: October 1, 1913—October 1, 1914

Number of nurses	1
Number of stations	1
Number of conferences	40
Total number of babies cared for	473
Number of deaths	5
Breast fed	33
Allait mix	8
Artificially fed	39
Visits made in the homes by the nurse	2,698
Average attendance at conference	8
Registration of births since June 13th, 1913	86
Babies for weighing only	8
Instruction given to mothers outside of station	20
Milk given to mothers (prenatal cases)	9

LUCILIA B. VAN HORN, *Superintendent.*

INDIANA

CHILDREN'S DISPENSARY AND HOSPITAL ASSOCIATION

South Bend

I. Organized in 1909.

II. Prenatal Work: We encourage mothers to report as early as possible. After the confinement every encouragement is given to breast-nursing. Our nurse makes weekly calls before and after confinement.

Postnatal: Mothers are encouraged to bring their babies to the welfare station for weights, observation and advice.

Care of Sick Babies: Clinics are held at station daily during the summer; bi-weekly during the winter. Very sick babies are referred to a free ward in Epworth Hospital. Milk feedings according to directions of physicians are given at the station, but where conditions are suitable whole milk is given and home modifications encouraged.

III. The general infant mortality under two years in the whole city last year was 12 per cent; this year, 7 per cent. The mortality among the babies in touch with our association was less than 1 per cent. We employ two nurses and six doctors.

IV. We have two stations which take care of the work in their district.

V. Our cases are reached through birth records, associated charities, visiting nurses' association and our own dispensary. We reached 91 mothers in 1913; 131 mothers in 1914. During the year 1914 we took care of 205 babies.

VI. Our organization is the only one doing infant welfare work although Epworth Hospital has a free home for sick babies.

VII. Our clinics are only for mothers of very limited means, but by exhibits, literature, etc., we aim to teach all mothers.

VIII. We cooperate with Epworth Hospital, the Associated Charities, the Board of Health and the Visiting Nurse Association.

IX. Our work is supported by private charity. Our annual budget is \$2,500.

X. The population of South Bend is about 65,000. Total number of births for year ending October, 1913—1,691; total number of births for year ending October, 1914—1,907; total deaths under one year of age for year ending October, 1913—203; total deaths under one year of age for year ending October, 1914—142.

CHARLES E. HANSEL, M. D., *Medical Director.*

KENTUCKY

BABY'S MILK FUND ASSOCIATION

Duncan Park, Lexington

Organized June 1, 1914.

No prenatal work as yet. Routine consists of daily visits by the nurse to the homes; instruction in infant feeding and in the preparation of food; weekly conference at the clinic; classes for mothers every other week. Sick babies are sent to the hospital on the advice of the doctor.

Milk is modified according to the doctor's formula for the very young children and is distributed from the station or sent to the homes. Whole milk is distributed for the older children.

Work is carried on during the summer months. Supported by private charity. Budget \$800.

Staff consists of two doctors, a trained nurse and an assistant.

Ages of the children range from six weeks to five years.

Our work is the only one for babies in the city. It is confined entirely to families of very limited means.

We cooperate with the Board of Health and the hospital.

Population of Lexington is 38,000.

EMMA KLEIN, *Nurse-in-charge.*

THE BABIES' MILK FUND ASSOCIATION

Louisville

- I. The Association was organized in 1908.
- II. Growth of Babies' Milk Fund Association :
 - 1909—
 - 6 Infant welfare stations—open 5 summer months
 - 6 Graduate nurses
 - Modifying laboratory
 - 1910—
 - 7 Infant welfare stations—open 5 summer months
 - 7 Graduate nurses and supervising nurse
 - Modifying laboratory
 - 1911—
 - 4 Infant welfare stations—open all year
 - 4 Graduate nurses and supervising nurse
 - Modifying laboratory
 - 1912—
 - 4 Infant welfare stations—open all year
 - 4 Graduate nurses and supervising nurse—1 nurse-at-large
 - Modifying laboratory and home modification
 - 1913—
 - 5 Infant welfare stations—open all year
 - 5 Graduate nurses and supervising nurse—1 nurse-at-large
 - Home modification
 - 1914—
 - 5 Infant welfare stations—open all year
 - 5 Graduate station nurses — supervising nurse — 1 nurse-at-large
 - 1 Prenatal nurse
 - Obstetrical clinic

Prenatal cases are reported by the Associated Charities, settlements, doctors and students from the Medical Department, University of Louisville.

During this first year the average length of time mothers have been under observation was 3½ months.

Mothers are visited often enough to give adequate instruction in the hygiene of pregnancy and in preparation for confinement and for the infant.

The nurse is present at delivery, afterward making daily visits to give bedside care until the mother is discharged by the staff doctor when the case is referred to the nearest welfare station.

Seventy-five per cent entirely breast-fed; twelve per cent breast and bottle. Prenatal instruction has resulted in (a) the breast-feeding of a number of babies of mothers unable to nurse previous infants; (b) and normal birth weight and constant weekly gain; the general condition in many instances a conspicuous improvement over previous children.

Every effort is made to insure breast-feeding.

The postnatal care of well babies includes the instruction of mothers by house-to-house visits of nurses and weekly conferences of doctor, mother and nurse at the station.

No regularly organized classes are held but demonstrations are given at intervals at the stations.

Sick babies are nursed by mothers and caretakers under the supervision and instruction of the nurses in their visits to the homes.

Those seriously ill are referred to the Children's Hospital and the Infant Ward of the Public Hospital.

Whole milk is distributed and sold below cost from the stations. In rare instances modified milk is furnished temporarily, home modification being the rule.

III. Work continues throughout the year.

City death rate under 1 year of age:

1909	1910	1911	1912	1913	1914
15.2%	14.8%	12.5%	10.3%	12.9%	12.1%

The City Health Department reports a considerable reduction in diarrheal diseases in the past three years.

IV. The nursing staff consists of 7 graduate nurses, and 1 supervising nurse.

The medical staff consists of a medical director, 5 station physicians and alternates and 5 obstetrical clinic physicians, all of whom give their services gratuitously.

V. The milk stations are located in districts having the highest rate of mortality, each nurse being responsible for the territory limited to 10 blocks in each direction from her station. The whole work is supervised from the central office located in a building with several other social and nursing organizations.

The average number of babies under the care of each nurse varies from 100 to 150.

The cases come upon recommendation of registered patients, are referred also by the Pediatric Clinic of the Public Hospital, by various social agencies and by the physicians.

Number supervised by B. M. F. A.:

1909	1910	1911	1912	1913	1914
284	558	837	902	1,008	1,245

Until October, 1914, the age limit was 5 years. It was recently reduced to 3 years.

VI. The Babies' Milk Fund is the only organization doing baby welfare work in Louisville.

VII. The purpose of the organization is to reach the mothers of very limited means but many inexperienced mothers more favorably situated and their physicians are asking assistance from the nursing staff.

VIII. The Babies' Milk Fund Association closely cooperates with the Department of Health, with the Associated Charities and with other visiting nurse organizations.

IX. The work is supported by voluntary contributions and appropriations from the city and county. Amount of annual budget:

	1913	1914
	\$10,311.87	\$12,000 (estimated)

X.

Total population of Louisville, Ky.....	260,000
Total number of births for year ending Oct. 1, 1913.....	4,327
Total number of births for year ending Oct. 1, 1914.....	4,127
Total deaths under 1 year of age for year ending Oct. 1, 1913...	559
Total deaths under 1 year of age for year ending Oct. 1, 1914...	501

XI. Louisville is in the registration area for births.

XII. The most effective branch of work this year has been the obstetrical clinic with its prenatal instruction and obstetrical service. The uninterrupted supervision has given an encouraging outlook for future results.

The ignorant and irresponsible mother who is not prepared for maternal duties and who fails to carry out the instruction given at the conference and by the nurse remains a serious difficulty.

GAVIN FULTON. M. D., *Medical Director.*
ELISABETH SHAVER, R. N., *Superintendent.*

MARYLAND

COUNCIL MILK AND ICE FUND OF BALTIMORE CITY (Incorporated)

I. Organized 1895.

II. Started with about forty families, now supply about four hundred families. All branches of infant welfare work receive our attention.

Prenatal cases are brought to our attention either through our welfare workers or directly by mothers themselves, or recommended by physicians' and nurses' certificates.

Postnatal cases: This work is done in cooperation with the Babies' Milk Fund Association, insistence being made that mothers attend weekly conferences and bring their children along.

Hospital care: Ill babies are referred to the hospital.

Distribution of milk: Modified milk is given only in special cases. Whole milk is delivered daily at home of recipient.

III. Work is conducted during the entire year.

V. Children are usually supplied with milk during the first two years, there is, however, no specified limit, and when necessary milk is furnished for longer periods.

VI. We cooperate with most of the other associations doing welfare work, more especially with Babies' Milk Fund Association, visiting nurses, hospitals, dispensaries, etc.

VII. Our work is with mothers of limited means and the very destitute.

VIII. We have no connection with the Board of Health except co-operative.

IX. The work is supported by voluntary subscription and the Jewish Federated Charities; we receive no appropriation from the city or state. In addition to the large number of people receiving free milk from us, many (not included in the list our beneficiaries) obtain pure milk at wholesale price, who but for us would be unable to procure it.

MRS. ISIDORE ASH, *President.*

MARYLAND ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

"Babies' Milk Fund Association"

Baltimore

The Association conducts its work along lines found most serviceable here and many other cities. It supports nine trained nurses throughout the year, and through the assistance of the Thomas Wilson Sanitarium, three additional nurses during the summer.

It holds weekly consultations for mothers at ten welfare stations, where physicians and nurses meet the mothers, and go over in detail the methods of feeding, and the care which will keep the babies well. Medical aid is furnished to those who are sick. It especially encourages breast-nursing. Its nurses visit the expectant mothers, who register in the large obstetrical clinics, establish relations of friendship with them before the babies are born, and continue to look after the babies throughout the period of infancy. The nurses spend the major part of their time in house-to-house visiting, instructing the mothers in all matters pertaining to the welfare of their babies, and in answering calls from physicians and others to furnish necessary care for ill children under three years of age.

The year's work may be summarized as follows (year ending February 1, 1914) :

Number of visits by nurses during the year.....	30,000
Attendance at the Baby Welfare Conference.....	5,500
Patients on the list February 1, 1913.....	1,656
Patients on the list February 1, 1914.....	1,927
Total number of babies reached throughout the year.....	4,995
Number of cases referred to cooperating agencies, including Federated Charities, Henry Watson Children's Aid, Hebrew Benevolent Society, St. Vincent de Paul Society.....	1,510

Of all the babies reached by the nurses 292 have died, a mortality of about 6 per cent, as compared with the total infant mortality of the city, of about 12 per cent, so that a baby's chance for life are doubled when it is under the care of the Babies' Milk Fund Association.

Baltimore needs twenty additional welfare stations, doctors and nurses to care adequately for its infant population.

The most recent extension of our work is outlined below :

Experiment in Providing Prenatal, Skilled Obstetrical and Postnatal Care in a Community formerly Covered by Poorly Trained Doctors or Unskilled Midwives.

District selected is remote from hospital centers, not reached by any out-patient clinics, or other agencies caring for mother or child. Situated along water front. Majority of wage-earners are stevedores, or connected in other ways with shipping. Wages in good times average about \$9.00 to \$12.00 weekly. Cut down during financial depression to from \$3.00 to \$5.00 weekly.

Population of district between 6,000 and 7,000. Majority of the births are attended by midwives—8 caring for most of the cases.

People very self-respecting—majority of foreign birth. Nationalities represented—principally Germans, Lithuanians, Hungarians and sprinkling of Poles. Mothers as a rule have been accustomed to midwives and objection is frequently made by husbands to employment of male physician.

Confidence of community was won by the establishment and maintenance for a year of a babies' milk station; weekly welfare conference between physician, mother and nurse regarding health of the babies, followed up by visits in the homes by the nurses, care of sick babies, and instruction of mothers in baby and personal hygiene, etc., preparation of food, etc.

How introduced—by cooperation between all agencies—religious, social, educational, etc., in the community; churches, social settlement, public schools, visiting nurses, medical dispensaries.

How carried out: Obstetrical clinic—started September, 1914. Staff, 1 woman physician, 1 trained nurse (who is also trained in social work), and a trained attendant.

Headquarters and Equipment: Two rooms rented in private house, and fitted up as office and examining room. Fully equipped also to care for emergency cases, Provided with well stocked loan closet. Office hours daily and physician and nurse subject also to call at other times.

Routine—General: Mothers urged to register as early as possible Preliminary examination made by physician, advice and instruction given; followed up by visits by nurse every ten days, in normal cases, and often daily if necessary. Hospital care is urged for all cases that show any abnormalities, or previous delivery has been complicated or difficult.

Routine—Special:

Prenatal Care: In her visits the nurse gives general instruction as to hygiene, clothing of mother and child, preparation for breast-feeding. Specimens of urine examined monthly until the beginning of the eighth month, when examination is made every ten days. All arrangements for confinement are made by the nurse.

Obstetrical: Preliminary examination, followed by other examinations later. Physician cares for mother during confinement and continues her visits for ten days.

Care of Household:

- (a) The trained attendant assists the physician during delivery and makes daily visits to the home to bathe and care for mother and baby for ten days.
- (b) Members of the Mothers' Club (above referred to) formed of neighbors, voluntarily take turns in looking after the house, doing the cooking, washing and ironing. If a caretaker has to be installed in the house, and the family is unable to pay, a group of young women hold themselves in readiness for such service, and the payment—\$2.50 a week—is drawn from the funds of the club.

After care:

- (a) Mother: To prevent invalidism, the mothers are urged to come back to the clinic when the babies are a month old, for examination and necessary treatment.
- (b) Baby: To prevent illness the baby is registered, when ten days old in the welfare conference. The mother is urged to attend the weekly conference as soon as convalescent. And the cycle is completed by keeping the baby under medical and nursing supervision until it is a year old—or longer, if necessary.

Financed: Salary of doctor, nurse, attendant, rent of office, and other expenses, are paid by the Babies' Milk Fund Association. Each mother is asked, if possible, to pay \$5.00 for the services of doctor and nurse and care-taker; and the sum accruing from this is refunded to the Babies' Milk Fund Association. Collections are made by the nurse in her rounds; the money usually coming in, in small amounts, ranging from ten cents upwards.

M. FRANCES ETCHBERGER, *Supervising Nurse.*
J. H. MASON KNOX, JR., *Medical Director.*

BABY WELFARE SECTION OF CIVIC CLUB**Cumberland**

The Baby Welfare Section was organized February 11, 1913. Efforts have been directed chiefly toward securing a trained baby nurse for this community.

Prenatal: No special study has been made of prenatal cases, and no records are kept under that head. The same may be said as to breast-feeding.

Postnatal: No system of house-to-house visits for instruction of mothers has been inaugurated as yet, and no classes for mothers held.

Care of Sick Babies: During the past summer the care of sick babies has been looked after by a specially appointed committee of ladies, who continued their work through July, August, September and October.

Distribution of Milk: Bottled milk was distributed daily to eighteen babies and to several expectant mothers. In each instance, this was under the supervision of the family physician.

Most of the cases were brought to our attention through the Associated Charities and similar organizations.

The age limit of babies under our care has been three years.

Our organization is the only one in our city devoted to this work. We have at present no affiliation with any other club or society. Our work has been strictly limited to mothers of the less fortunate. Our work is supported entirely by private charity, without aid from city or state. The amount required for carrying on our work for the summer months was about \$150.

Our most difficult problem is to convince the public of the vital necessity of this work in our community.

Births, year ending December 31, 1913.....	669
Births from January 1, 1914, to October 1, 1914.....	510
Total deaths under 1 year of age for year ending December 31, 1914.....	105
Total deaths under 1 year of age from January 1, 1914, to October 1, 1914.....	50

MRS. WM. THOMPSON, *Chairman of Section.*

MASSACHUSETTS

COMMITTEE ON INFANT SOCIAL SERVICE

now changed to

THE COMMITTEE ON PRENATAL AND OBSTETRICAL CARE OF THE WOMEN'S MUNICIPAL LEAGUE

Boston

I believe this committee to have made the first attempt to determine scientifically what benefit would accrue to mothers and babies if prenatal care were to be given as a matter of routine throughout, as nearly as possible, the full period of pregnancy. Pregnant women have been visited time out of mind by their physicians where signs of illness seemed to make such visits necessary. but the investigation here reported was undertaken with a view to determining the possibility of preventing through medical care the very illnesses which doctors had hitherto only been called in to cure. The work has always been experimental throughout its five years of existence. No effort has been made to do it on a large scale; the committee has felt itself always to be merely the sign post pointing the way to the great help which others would give. The experiment has justified itself, and the fifth year of prenatal work was completed on April 15, 1914. Before speaking of the new line of work which we have since then undertaken it seems fitting to give a summary of the most important results to mother and child which have seemed to us to come from prenatal care, together with a few words to explain its simplicity.

The care is not difficult to give, it is not beyond the capacity of any thoroughly trained nurse, and with the standard established by the committee of visits to every patient at least every ten days, we have found that one nurse can keep on her books from 80 to 100 patients all the time, even though they live in widely separated parts of the city. Were the city districted much more could be accomplished for we have found it possible properly to pay twelve calls in a morning where the patients lived near one another.

SUMMARY OF RESULTS

The visits made by the nurse have numbered 12,984; through which visits the cases carried safely to confinement have been 1,512; and the babies born of these mothers have numbered 1,522. There have been no maternal deaths during pregnancy and but nine maternal deaths at confinement; which is only 6/10 of one per cent of the total number confined. The percentage of miscarriages has been a trifle under 2/10 of one per cent. Of these miscarriages two occurred in the first year and one in the first half of the second year, since which time none of our patients have miscarried.

The cases of eclampsia have been 4, a percentage of 2/10 of one per cent. Of threatened eclampsia the number has steadily declined from the first year, when they numbered 60, to the last year, when there were only 2 cases considered by the hospital to be cases of threatened eclampsia.

The average birthweight of the babies for the five years, *including premature babies* has been 7 pounds and 11 ounces.

The number of premature babies has averaged in the five years only 1.7 per cent of the total number of babies, including twins and stillbirths.

The stillbirths, including premature births, were for two years only 17 and 18 per thousand, respectively, less than half that of the rest of the City of Boston, and, though during the last year the percentage was considerably higher, coming more near to the average throughout the city; it appears to have been caused by one of those unfortunate combinations of circumstances which brought two cases of placenta praevia, and one each of detachment of the placenta, foetal monstrosity and congenital syphilis, all close together in point of time. The deaths of babies under one month numbered 43. Percentage for the five years from 1909-1914—2.8 per cent. Whereas for the city at large, although steadily falling, the baby death rate for the year 1913 was 4.3 per cent.

The study of the methods of feeding the babies covers only a part of the five years, but may be taken as an average. The results are as follows:

Percentage of those breast-fed.....	84.7%
Percentage of those mixed-fed.....	4.5%
Percentage of those bottle-fed.....	10.8%

BREAST-FED CONDITION		MIXED-FED CONDITION	
	Per cent		Per cent
Well at end 1 mo.....	97.5	Well at end 1 mo.....	92.3
Ill " " 1 "	1.7	Ill " " 1 "	0.0
Dead " " 1 " .....	.4	Dead " " 1 "	0.0
Condition unknown.....	.4	Condition unknown.....	7.7
<hr/>		<hr/>	
100.		100.	
BOTTLE-FED CONDITION			
	Per cent		Per cent
Well at end 1 mo.....	72.4		
Ill " " 1 "	13.8		
Dead " " 1 "	3.4		
Condition unknown.....	10.4		
<hr/>		<hr/>	
100.		100.	

I believe we may say that prenatal care appears to lessen the likelihood of serious complications for both mother and child not only during pregnancy but also at childbirth. Fewer children seem to come before their time. More are born viable and their birthweight is considerably increased. A larger proportion of mothers come safely through their ordeal, and it seems likely that they are also sounder and stronger afterwards than those who have not had these advantages, if one may judge by the proportion of those able to nurse their children and the condition of the children so nursed.

That prenatal care has abundantly proved its value is shown by the reports of all the many associations doing this work, not only throughout this country but in other parts of the world.

The next step has seemed the standardization of obstetrical practice among patients of small means and of no means at all; and the education of women in the importance of securing for themselves and their unborn children only the best care at this most vital time.

With this object in mind the committee has taken over the entire charge of two clinics recently established in Boston, one in East Boston at the Maverick Dispensary and the other started by the Milk and Baby Hygiene Association at the Peter Bent Brigham Hospital. The medical care at these clinics is being given by the obstetrician of the committee, Dr. Arthur B. Emmons, 2nd. The committee greatly appreciates the cooperation of the two institutions where the clinics are held, and the invaluable help of the Instructive District Nursing Association. The latter organization does all the nursing required, supplying not only the nurses at the clinics but doing all the prenatal visiting of the patients in their homes according to the standards set by this committee in its previous work; and also making all postnatal visits which may be required during the puerperium.

At these clinics the patients register as early in their pregnancy as they can be persuaded to come. The obstetrician makes a thorough examination of the patient, including the pelvic measurements. The patient's medical and social history are taken, both her personal history and the history of any previous pregnancies, and also that of any previous children. After this initial visit at the clinic the patient is visited by the nurse in her own home at least every ten days, and oftener if anything in her condition appears to need more frequent oversight. Should she require medical care she is sent to the clinic for observation and advice, but if all goes well her visits there are made only at rare intervals, just often enough for the doctor to keep track of the proportion between the size of the pelvis and the growth of the baby and to see that everything is going as smoothly as nature intends it shall go.

When the time for confinement comes the patient is delivered by a trained obstetrician in her own home, and is cared for by him during the puerperium until the need for such care is over.

That so many injuries and deaths still occur before and during childbirth is a disgrace to the twentieth century, for with proper care the greater part of them could be prevented. Ignorant midwives (and midwives must always be ignorant, for were they educated adequately for their work they would cease to be midwives and become physicians) and almost equally ignorant physicians are the cause of most of these deaths, and behind it all and permitting it all is the mother herself who has been taught that pain and suffering are the lot of woman and so forgets that this pain should be followed by joy, the "joy that

a man is born into the world." This message of the fullness of life for both mother and child is the message which we are trying to bring to all women, the message of the joy of life and of the joy of its birth, and when it is understood by women there will be no carelessness about the great function of childbearing because such carelessness will no longer be tolerated.

MRS. WILLIAM LOWELL PUTNAM, *Chairman.*

PRENATAL CLINIC MAVERICK DISPENSARY

Boston

The Maverick Dispensary is the Health Center of an isolated part of the city, East Boston. Two of the activities of the dispensary are of special interest to this Association in its study of health problems of the infant.

1. The Milk and Baby Hygiene Association has now on its list in East Boston 206 babies under one year of age. At our largest conference sixty-two babies with their mothers, are registered. This is a large increase over the work of previous years. We have but seven babies at present on milk station formulas, the other bottle babies are on home modification. We have also largely increased breast-feeding.

2. Our prenatal and obstetric clinic has done very satisfactory work as far as good, safe care is concerned. We have had no maternal deaths as yet. Our infant deaths were one stillbirth and a pair of premature twins.

One thing is not yet satisfactory. We have served during the year only eighteen cases in the homes with double that number applying. We are studying the causes of the failure of the people to use this service. We find the following causes operative against its use:

1. Our cost is \$10.00. Before we started our clinic service could be had for \$5.00 and often less.

2. Though we have been anxious to cooperate with the local physicians we hear that some of these at least will care for a confinement for little or nothing to keep them away from our clinic.

3. The fact that our obstetrician lives in Boston and must be telephoned to by the family of the patient, resulting sometimes in delay in his arrival at the home, has prejudiced a few. This we hope to obviate by having the call sent to the dispensary and the doctor called from there, while at the same time a nurse is sent to urgent cases.

4. The male accoucheur is objected to by some recent immigrants.

The management of this special clinic is now transferred to the Committee on Prenatal and Obstetric Care of the Women's Municipal League with the object of spreading such care throughout Greater Boston.

A. B. EMMONS, 2ND, M. D., *Physician-in-Chief.*

PRENATAL CLINIC THE PETER BRENT BRIGHAM HOSPITAL DISPENSARY

Boston

The Peter Bent Brigham Hospital Prenatal Clinic was started February 5, 1914, by the cooperative efforts of the Milk and Baby Hygiene

Association and the Instructive District Nursing Association. The hospital agreed to foster the clinic, giving equipment and space. The Milk and Baby Hygiene Association was responsible for the clinic supplying the obstetrician in charge. The Instructive District Nursing Association supplied a nurse at the weekly clinic and visited the prenatal cases in the home at intervals of not over ten days and also gave them care after birth.

In the nine months of the clinic's existence ninety cases have applied at the clinic. We have had no infant mortality as yet. One maternal death from eclampsia has occurred. When patients have no private physician for confinement we supply an obstetrician who is allowed to charge \$10.00 for his services. The Nursing Association collects when possible \$5.00 for complete prenatal and postnatal nursing.

On June 1, 1914, a committee of the Woman's Municipal League of Boston on Prenatal and Obstetric Care took over from the Milk and Baby Hygiene Association the responsibility of the clinic with the object of forming a chain of prenatal and obstetrical clinics, which shall cover all parts of Greater Boston not at present suitably provided with facilities for such care.

A. B. EMMONS, 2d, M. D., *Physician in Charge.*

THE FLOATING HOSPITAL

Boston

I. Organized 1894. Incorporated 1901.

II. Began with the idea of giving ailing children and tired mothers fresh sea air in Boston harbor and furnishing them with good milk and wholesome food. The first year 5 days' service was rendered; the second year 13 days' service was rendered; the length of the season gradually increased to over 80 days. The present hospital fully equipped is the result of a gradual evolution. It fulfills all the functions of a fully organized infants' hospital.

There are accommodations for 120 permanent (or day and night patients) as well as space for over 100 day patients accompanied with their mothers. A complete post-graduate course for nurses and physicians is offered. Research work and a complete course in food laboratory work and study are carried on.

No prenatal work is planned.

Every effort is made to have the mothers nurse their children, after they come under the supervision of the hospital. For this reason breast-fed babies are usually only accepted as day patients, and milk is given to the mothers three times a day, and instructions in the kind of food and living to insure the continuance of breast-feeding.

Care of Sick Babies—Permanent Cases:

- (1) The very sick babies are cared for on the permanent wards.
- (2) Those who do not do well as day patients.
- (3) The premature infants.

Day Patients: Ranging from poorly nourished children, needing fresh air and wholesome food, to the sick ones who need practically the same treatment as those on the wards and for the convalescents discharged from the permanent wards. These children are provided each night with the same formulae, in quantity sufficient until their return next morning.

Shore Work: Investigation by "on shore nurses" of home conditions of every child admitted to the hospital and instructions to the mother in some cases in the home. The Floating Hospital in 1911 gave up the employment of wet nurses and since then has developed a system of breast milk collection at the homes of mothers of proved health, who have been professionally advised that they can supply it without detriment to their own children.

In especially urgent cases, this supply is used in addition to the regular certified milk supply of the hospital.

III. The actual hospital season covers the summer months; during the rest of the year some supervisory work among the families which have had connection with the institution is maintained. This work as now conducted is considered the beginning of what it is realized should be its ultimate development.

IV. Sixty-four nurses. Eighteen physicians and assistants.

V. The organization has really been defined above. Rather than observe districts, the hospital is open to the children of any town or city. Children come from a radius of thirty miles, and in some cases beyond. Average number of babies in the permanent wards, under one nurse, is four in the day and eight in the night. Admission is upon the recommendation, on prepared cards, by various physicians and charitable and child welfare organizations. Over 1,000 mothers and babies reached last year. Five years is the age limit.

VII. Most of the work is among mothers of very limited means and intelligence; occasionally opportunities occur to give instruction to young mothers of more than average intelligence.

VIII. The hospital willingly cooperates with all child welfare activities but has no actual correlation.

IX. It is a private charity supported entirely by gifts and public subscriptions.

The annual budget is from \$45,000 to \$48,000.

G. LOBING BRIGGS, *Manager*.

MASSACHUSETTS MILK CONSUMERS' ASSOCIATION

Boston

The object of this Association is to secure the enactment of legislation giving to the Massachusetts State Board of Health the ordinary legal powers over the milk supply which most of the States gave to their boards of health years ago. The means which we employ for this purpose, educational publicity, is an end in itself because it has a very marked effect both in stimulating local health boards and in bringing to the attention of the milk producers and dealers the necessity of taking greater care in handling their milk.

EDUCATION

As part of our educational campaign during the year ending July 1, 1914, about 35,000 letters, 30,000 educational circulars and 3,600 postal cards were sent out. In addition to this educational work the news-

papers have furnished much help. The publicity kindly given us by them would aggregate a great many columns; this includes reports of speeches made by the advocates of our bill both inside and outside of the legislature.

The value of education can hardly be overestimated. It is said that, as a result of the educational campaign attendant upon the effort to have a law passed prohibiting the use of arsenic in wall papers, the dangerous practice had been abandoned by the time the law was placed on the statute books. This, of course, will never be true of the evil with which we are contending because here only eternal vigilance will ever be the price of safety, for even where a high standard of excellence is once attained in the conditions of dairies and plants supplying milk, if inspection be relaxed many handlers of milk soon become careless again and reversion to insanitary conditions seems inevitable.

CONDITION OF MILK

Our opponents stated quite frankly in the debate this year that as a result of our campaign the conditions in the dairies were better than ever before, but there is still room for a tremendous amount of improvement.

Lest we become too sanguine it should be noted that the bacterial tests of car milk (which is chiefly out-of-state milk) in Boston show an increase in the number of samples having more than 500,000 bacteria per cubic centimeter. For instance, in May, 1914, samples of several companies examined showed the following counts:

40,000,000	417,000,000
49,000,000	40,000,000
53,000,000	50,000,000
21,000,000	70,000,000
11,000,000	150,000,000, etc.
176,000,000	

In this particular month 88 samples out of 288 (30%) examined showed a higher count than 500,000, but the average number of samples exceeding this limit is about 20 per cent of the whole amount tested. It should always be borne in mind that milk like this is often mixed with perfectly good milk, thereby extending the contamination to a much larger field and vitiating the efforts of many conscientious handlers of milk.

The Boston shop milk and wagon milk, on the other hand, show a decrease in the number of samples having a bacterial count of more than 500,000, and in spite of the poorer samples of car milk there has been a general improvement in the milk supply, which is reflected in the lower rate of infant mortality and which confirms the already clearly demonstrated principle that an improvement in dairy conditions always results in a decrease in infant mortality.

INFANT MORTALITY

For the year 1913 the rate of infant mortality in Massachusetts is 110.6 as compared with 117.8 in 1912, 120.9 in 1911, and 134 in 1910. The actual deaths under one year for 1913 were 10,086 as compared with 10,472 in 1912, 10,543 in 1911, and 11,499 in 1910. Using the 1910 figure as a basis it may be said that during the last three years the

lives of 3,396 young children have been saved, making on an average 1,132 a year. The infant mortality rate for the state is practically the same as that for the City of Boston. It is a trifle higher than that of New York State and considerably higher than that of New York City. The very striking reduction in the infant mortality rate of New York City has been due largely to the increased attention given its milk supply, and it is perfectly certain that if we gave our State Board of Health proper legal authority over the milk sold in Massachusetts our Massachusetts infant death rate would soon be reduced to at least that enjoyed by the congested City of New York.

When we consider the infant mortality rate for New Zealand of 51., and for Dunedin, a manufacturing city in New Zealand of 70,000 inhabitants, of 38. per 1,000 babies born, we realize how backward after all Massachusetts is in the work of human conservation. If the New Zealand rate had been in effect in Massachusetts last year there would have been 5,400 more Massachusetts children alive today. Apart from the needless sorrow and suffering even the unnecessary economic loss through their deaths was very considerable. Valuing each life at \$1,700 the figure adopted by Prof. Fisher, this loss would be \$9,000,000.

INSPECTION

When this association was formed the State Board of Health had only one dairy inspector. It now has three besides the chief inspector. While they devote only part time to dairy inspection the total number of dairies inspected each month has increased very materially, and at our suggestion their dairy inspection is standardized by the use of the United States score card. It is greatly to be regretted that they still have no legal authority to remove filthy conditions revealed by the inspection.

At the suggestion of this association the State Board of Health issued an order to local boards requiring them to specify whether or not the contagious diseases reported by them appeared in the family or among the employees of milk producers or dealers. The law under which this order was issued gives the State Board of Health the power to prescribe the manner in which reportable diseases should be reported by local boards. This is as far as the existing law would permit the State Board of Health to go, but in a well ordered State the Department of Health should have the authority to pass a complete set of regulations for the prevention of milk-borne epidemics.

A large amount of money is devoted each year by the State Department of Health to the chemical analysis of milk. As the question of fats and solids is a matter of commercial fraud and only very remotely a question of health, we have recommended that this money be used for the bacterial examination of milk and we hope that the new Department of Health will change its policy in this respect.

LEGISLATION

There have been some slight gains in legislation for the State during the year. The powers of local health boards over the milk supply have been strengthened, and a new law was passed requiring the local boards who find it necessary to revoke milk licenses in their jurisdiction to notify the State Board of Health of the fact, giving it also necessary accompanying data. In such cases the State Board of Health is required to notify any dealers in the State whom it thinks liable to sell

milk from these places and all other local health boards concerned that these licenses have been revoked, and it becomes illegal for people receiving such notices to sell such milk anywhere in Massachusetts. A little secondary authority has thus been given the State Board of Health, but unfortunately up to the present time (October, 1914) although the law went into effect early in August, 1914, the State Board of Health has received no notices under this act from any local board, and therefore as a practical matter has received no additional authority. Of course, local boards which are not now paying any attention to their milk supply will send no notices hence the law fails to cover just that part of the territory which needs the most attention. Since the formation of this association the number of local boards having a milk inspector has increased over 50 per cent, yet those boards that permit themselves to be without this protection still number 262 and constitute 74 per cent of the towns of Massachusetts (in 1914), and moreover, most of those having milk inspectors do not do any systematic dairy inspection.

In 1914 a most pernicious bill was introduced in the Legislature inspired by the Commissioner of Animal Industry. This bill actually prohibited the State Board of Health from inspecting cow barns and cow yards and was defeated largely through the efforts of this association.

The Legislature of 1914 reorganized the State Board of Health and gave it the right to make and promulgate rules and regulations, but as no penalty was provided for their violation the provision is worthless. It is of interest to note that the State Department of Health in 32 States of the Union has the right to pass sanitary regulations which are made enforceable by a provision for penalties. In 35 States it is illegal to sell milk produced or handled under insanitary conditions.

In 1914 the bill of this association came within three votes of passing in the Senate, and these three adverse votes were cast by men who broke the pledge they had given to vote for the bill. We are now assured of a large majority in the House, so that we have faith to believe that the Massachusetts Legislature will not much longer persist in its refusal to place such an obviously necessary law on its statute books.

MRS. WM. LOWELL PUTNAM, *Chairman Executive Committee.*

MILK AND BABY HYGIENE ASSOCIATION

Boston

I. Organized 1909; incorporated 1910.

II. The Milk and Baby Hygiene Association is the only agency in Boston combating infant mortality through establishing milk stations with adequate medical and nursing service. The fifth annual report published in April, 1914, shows the following steady growth:

	1910	1911	1912	1913
Number of babies under supervision at beginning of year..	738	1,079	1,221	1,307
Number of babies supervised during the year.....	1,870	2,827	3,026	3,421
Number of visits by babies at clinics with doctors.....	10,847	10,972	11,451	13,754
Number of home visits made by nurses.....	28,605	32,156	38,650	41,945

Prenatal: On February 5th the Association opened a clinic for expectant mothers at the Peter Bent Brigham Hospital. Dr. Arthur B. Emmons, 2nd, of the medical staff of the Milk and Baby Hygiene Association conducted the clinic, and the local connection with the community was provided by the Association. The hospital provided the room for the clinics, and the Instructive District Nursing Association provided the nursing service. Five women presented themselves for consultation with the doctor and nurse on the opening day, and during the first two months over 50 women attended the clinic. In June the Trustees of the Milk and Baby Hygiene Association, feeling that the need of the clinic was thoroughly proved and that it was well established, acceded to the request that it be placed under the management of the Committee on Social Service of the Women's Municipal League of Boston. In regard to breast-feeding, which has been strongly emphasized since the Association was started, the report of the special summer campaign published in October, 1914, shows that the number of babies wholly or partly breast-fed has increased remarkably. In 1912, 63 per cent of the total number of registered babies were wholly or partly breast-fed. Last year the number was 67 per cent, and this year the number is 75 per cent.

Postnatal: Mothers of milk station babies are instructed by means of home visits by the nurses of the Association and by clinics for well babies held from one to two times each week in every station. At this clinic a physician with special knowledge of infant work is present, and each mother consults with the physician and nurse after the baby has been weighed and its condition recorded on the history card.

Classes for "little mothers" or "little nurses" are held in many of the milk stations. Where no such class is held, it usually means that the settlements, in which most of the stations are located, provide this educational opportunity. These classes are held once a month and have been a feature of our work for a number of years.

Sick babies are not cared for by the Association. Such cases are referred directly to private physicians, if the family can afford one; if not, to district physicians, dispensaries and hospitals.

From eleven of the twelve welfare or "milk" stations inspected pasteurized milk is daily distributed at cost from 8 to 9:15 A. M. From one station the milk deliveries are made to the homes, but the milk supply is the same. A consideration of the feeding of the wholly or partly breast-fed babies shows that for the last week in September, 1912, 85 per cent of the mothers were dependent upon dairy formulas and only 14 per cent had been taught to modify milk in their homes. In September, 1913, the percentage of mothers using dairy formulas had dropped to 25 per cent; of mothers using home modifications had risen to 66 per cent, the balance of the bottle-fed babies being on whole milk. This summer for the week ending September 26, 1914, only 10 per cent of the mothers with bottle-fed babies were using dairy formulas and 78 per cent of such mothers were using home modifications.

III. The full work of the twelve stations is carried on all the year round; during the summer months for the last two years four nurses have been added to the regular staff for temporary work from June to October.

The report of the medical director for 1913 shows the following effect upon the infant sickness in Boston: In 1911, 1,924 babies under one year of age were admitted to the supervision of the milk stations. There were 139 deaths during the first complete year of life. This gives an

actual death rate of 72.25 per 1,000, *which is 25 per cent below the Boston infant death rate corrected for corresponding numbers, ages and food.* In 1912 there were 1,922 babies under one year of age admitted to supervision. There were 113 deaths, an actual death rate of 58.79 per 1,000.

The death rate among Boston babies as a whole for corresponding numbers, ages and food has been reduced until now it is 80.65 per 1,000 births. This means that a reduction from 80.65 per 1,000 to 58.79 per 1,000, or 27 per cent, was obtained as the result of supervision.

In other words, in 1911, 25, and in 1912, 27, out of every 100 deaths occurring among Boston babies of corresponding age and food conditions would have been prevented had they received the benefit of milk station supervision.

IV. The staff includes two medical directors, paid, and fourteen volunteer conference physicians; one supervising nurse and thirteen field nurses, all paid.

V. The work is organized by dividing Boston into districts, with a nurse or nurses in charge of each district, the whole work being supervised from the central office at 26 Bennet St. The average number of babies under the care of each nurse is about 100.

Statistics for the year 1913 showed that the starting points for our work were of many kinds. Forty-two and one-half per cent of all babies registered were brought to the stations by their mothers, relatives or neighbors. Fourteen per cent were referred by the milk station nurses, thirteen per cent by the nurses of the Division of Child Hygiene of the Board of Health; five per cent by the district nurse; nine and one-half per cent by physicians; ten and one-half per cent by hospitals or dispensaries; three per cent by settlements; one and one-half per cent by relief agencies; one per cent for miscellaneous reasons.

Each year we have reached more mothers than the year before. For the year ending October 1, 1914, the number will be very close to 4,000. From January 1-December 31, 1913, we reached over 3,400 mothers.

The number of babies cared for has also increased each year. This year we are caring for 20 per cent more babies than last year. The Association has no hard and fast limit to the age of children cared for, but owing to the pressure of the younger babies we are not able to care for many children over fifteen months of age.

VI. The Milk and Baby Hygiene Association is the only organization in Boston engaged in baby welfare work by means of public health or "milk" stations.

Other agencies dealing with baby welfare in some phase include the Division of Child Hygiene of the Boston Board of Health, the Instructive District Nursing Association, six or seven hospitals having accommodations for babies, most of the settlements, and social agencies such as the Children's Aid Society, the Society for Helping Destitute Mothers and Infants, etc. There exists between the Milk and Baby Hygiene Association and public and private agencies in Boston an excellent system of cooperation. This is shown by the fact that nine out of the twelve milk stations of the Association are given quarters free of rent in settlement houses. Cooperation is rendered by the chief relief agencies, such as the Associated Charities, the Boston Provident Association, the Federated Jewish Charities and the Overseers of the Poor, in cases where families are unable to pay for milk.

VII. The Association makes no distinction in its work between mothers of very limited means and those who are more favorably

situated financially. The question of the age of the mother also does not enter. Most of the babies cared for, however, come from families of very limited means.

VIII. The Association cordially cooperates with the Boston Board of Health, of which it is quite independent. From January 1-December 31, 1913, 455 babies, 13 per cent of the total, were referred by the Division of Child Hygiene to the Association. The welfare stations of the Association are used frequently by the Board of Health nurses.

There is also cordial cooperation with all agencies of welfare work in the city, with private and district physicians, hospitals and dispensaries, the Instructive District Nursing Association, the children's agencies, relief societies, day nurseries and settlements.

IX. The Association is without endowment or permanent fund. It receives no grant from the city or state. It is entirely supported by annual contributions and donations. The amount of its annual budget for the year ending February 28, 1914, was \$22,461.24. This is exclusive of the amount paid for milk, which is sold at cost.

X. The total population of Boston, from figures of the Health Department, is 750,768. The total number of births for year ending October 1, 1913, was 19,248; total number of births for year ending October 1, 1914, 19,759. Total deaths under one year of age for year ending October 1, 1913, 2,151; total deaths under one year of age for year ending October 1, 1914, 1,957.

XI. The City of Boston is in the registration area for births. We are told that between 90 and 95 per cent of births are accepted as substantially complete by the Bureau of the Census. Dr. W. H. Davis, Vital Statistician of the Health Department, is a public health officer of national reputation, who is most kind in giving any information desired.

XII. We consider the most effective branch of our work the instruction and home visits of the nursing staff. These, however, could not be so effective, if the clinics for well babies were not so well attended and were not under the control of such competent and enthusiastic physicians.

Cooperation with local physicians who do not fully understand the nature of preventive work for babies is our most difficult problem.

GEORGE R. BEDINGER, *Director*.

SOCIETY FOR HELPING DESTITUTE MOTHERS AND INFANTS

Boston

Some of the questions asked in the outline sent us could not be answered, as our charity has been carried on along entirely different lines. The mother is the pivotal point of our work, not the infant, and the chief emphasis is the moral and educational influence exercised over her; but in doing this we devote much care and time to the welfare of the child. It is only just to say that the infants we care for are usually well. Every year, of course, there are mothers who graduate from our care, but remain in friendly relations with us. At the beginning of 1914 we had 72 children and their mothers under our charge in different situations. These have all been in good health through the summer; 28 of the children were under two years and 44 over two years old.

L. FREEMAN CLARKE, *Secretary*.

INFANT HYGIENE ASSOCIATION

Holyoke

I. Organized June 1, 1911. Incorporated under the laws of the State of Massachusetts February 2, 1914.

II. Work was begun with the establishment of a central milk station, from which milk, modified according to physician's orders, was sent to three different drug stores, which acted as sub-stations, gratis. One nurse, and one assistant were employed. Ten patients were supplied the first month.

Now we have a larger central station, five drug store sub-stations, which still act gratis, two trained nurses, one to act as a general supervisor of the work and who spends most of her time visiting the patients in their homes; and the other has immediate charge of the work at the central station. At the central station is also one assistant constantly, and another part of the time. Weekly clinics are held at the central station for oversight of the patients and their mothers. The station physician has this in charge. His services are given. We are now supplying about 100 babies each month with modified milk. The first year 78 were supplied, the past year, 343.

Branches of our work:

(a) Prenatal. No systematic prenatal work is being done at the present time.

(b) Postnatal. We do make special efforts to insure breast-feeding when possible.

Mothers are given instruction in the care of well babies and sick babies by house visits, and at the weekly clinics, at which latter the station physician is present, at the central station.

The family of the patient must go to the sub-station daily and get the milk, which they find put up in tin pails, packed with paper and cooled with ice. Empty pails and bottles are returned in exchange for full ones. We encourage the home modification of milk whenever possible. For this we furnish whole milk if desired.

III. Our work is carried on all the year round.

Statistics showing what effect our work has had on the infant mortality are as follows:

	Total deaths under 1 year	Total deaths under 1 yr. ex- clusive of out- of-town infants dying at the Brightside in- stitution *	Total mortality rate per 1,000 in- fants born	Mortality rate of same exclu- sive of out-of- town infants dying at Brightside in- stitution.
Oct. 1, 1908—Oct. 1, 1909	356	246	200	144
Oct. 1, 1909—Oct. 1, 1910	346	243	203	142
Oct. 1, 1910—Oct. 1, 1911	330	251	194	147
Oct. 1, 1911—Oct. 1, 1912	264	201	155	118
Oct. 1, 1912—Oct. 1, 1913	321	210	188	123
Oct. 1, 1913—Oct. 1, 1914	251	194	147	114

*At this institution infants are received from all over the State, and as such it seems only fair to note the fact in interpreting our death rate. Our Association has no relations with this institution or the patients there.

IV. Staff employed:

- 2 trained nurses with salary.
- 1 assistant and one helper with salary.
- 1 station physician without salary.
- 1 medical director without salary.

V. a. The whole work is supervised from the central station by the supervising nurse. The city is districted only so far as the delivering of the milk is concerned. The supervising nurse does all visiting.

b. Average number of babies directly under the care or supervision of the supervising nurse is 60 to 90 per month.

c. Cases are reached through the physicians chiefly, who refer them to the station, either simply for milk, or for milk and supervision, at the wish of the physician sending the patient. Some come through the advice of their neighbors, and some through the district nurse. Some come of their own accord.

d. During the past 6 months we have reached about 70 per cent to 80 per cent of the mothers. Previous to that time we reached only 20 per cent to 30 per cent, due to the fact that we had not enough funds to enable us to hire an extra nurse, to enable the supervising nurse to spend her time making calls at the homes.

e. Babies cared for in:

1911— 78.

1912—234.

1913—309.

1914—343 (Oct. 1, 1913, to Oct. 1, 1914.)

We are reaching more of the well babies, or those only slightly ill. There is no prescribed age limit, but practically, they are all under 2.

VI. Our organization is the only one engaged in infant welfare work.

VII. We reach more mothers of very limited means than of any other class, but we reach many of the more favorably situated ones.

VIII. There is no relation between our work and that of the Board of Health, any hospital or other association or charity organization in the city.

IX. Our work is entirely supported by an annual appropriation from the city, and our budget last year was \$3,000, as was the appropriation.

X. Total population of Holyoke is about 65,000. Total number of births for year ending October 1, 1913, was 1,698. For 1914 is approximately 1,700. Total deaths under 1 year of age for year ending October 1, 1913, was 321, and for 1914 was 251.

XI. The returns of births are accepted as approximately correct by the Bureau of the Census.

XII. We consider the most effective branch of our work to be the visiting of the homes by the supervising nurse.

XIII. The most difficult problem seems to be to get the mothers to follow orders, i. e., to feed the baby regularly and not to overfeed them.

F. H. ALLEN, M. D., *Medical Director.*

SPRINGFIELD BABY FEEDING ASSOCIATION

Springfield

I. Our organization was started in the summer of 1910 with one milk depot and one graduate nurse. Our work was chiefly confined to the distribution of modified milk put up in feeding bottles at the milk depot and called for by the parents; also visits to the homes by the nurse and the giving of instruction as to the feeding and hygiene of the baby. Weekly conferences for mothers were held at the milk depot by the physicians.

During the year 1911 the work increased until we had about 119 babies under our care. We also opened a branch delivery station.

In 1912 we had 167 babies under our care and added an assistant nurse.

In 1913 we had 221 babies under our care; also opened a summer camp during the months of July and August. During that time over 100 babies with their mothers attended the camp.

This last year we started prenatal work, and also during the summer started a "Little Mothers' Club," conducted by the nurses. Classes were held once a week. Over 75 girls, between the ages of nine and thirteen attended, with an average attendance of 22. A written examination was held at the end of the course and prizes given to the five having the best record. These "Little Mothers" were instructed as to the proper methods of clothing, bathing, feeding and the general care of the baby.

Prenatal: We started getting cases from the birth records, house-to-house visiting, and cases referred to us by other organizations. Since then some of our cases are sent to us by former patients.

The average length of time that mothers are under our care is from four to five months. The mothers are visited every two weeks and oftener if necessary. There have been 106 babies born whose mothers have been under the care of our nurse; of this number 75 were breast-fed, 11 mixed feeding and 20 bottle feeding. The weight averaged 7 pounds and 6 ounces at birth and the general condition of the babies was good. We make special efforts to insure breast-feeding. There have been four stillbirths and one death from congenital syphilis. The total number of mothers under our care to date has been 202.

Postnatal: Our nurse plans to make house-to-house visits at least once a month and as often as necessary if the baby is not doing well. The mothers report at the depot whenever there is any trouble with the babies' digestion. We hold weekly conferences for the mothers with a doctor and a nurse at the central station from April to December. Whenever any of the babies are sick we insist on their seeing a physician and remaining under his care. About one-tenth of the babies under our care are breast-fed, or part breast-fed. The majority of the babies coming to us are weaned before they come to us.

The milk is distributed through the branch stations in pails with the number of bottles to be used during the twenty-four hours, packed in ice. The pails are called for by the mothers each day.

III. Our work is carried on throughout the year. The year previous to the opening of our milk depot the infant mortality was 117 deaths per thousand births. This last year the infant mortality was 92.6 deaths per thousand births.

IV. We employ two graduate nurses, one assistant practical nurse and one helper. Besides the medical director four physicians assist in rotation at the conferences.

V. We have one central station where the milk is prepared and two branch stations for delivery only.

The average number of babies at the milk depot at present is about 60.

Babies are referred to us by physicians, former patients, the district nurse, Union Relief Association, Hampden County Children's Aid Association.

During the last year we have had 423 mothers under our care, of which 202 were under the care of the prenatal nurse; the preceding year there were 220 mothers.

We have had 327 babies under our care for the year ending October 1st, 1914, of which 106 were under the care of the prenatal nurse; the preceding year 220 babies. Most of our babies are under one year of age. Several have remained under our care until one and one-half years of age.

VI. Our organization is the only one in the city engaged in baby welfare work.

VII. We confine our work to mothers of limited means.

VIII. The Union Relief Association acts as a clearing house for the various charity organizations of the city; through them we keep in touch with other organizations and thereby prevent duplication of work. The Board of Health is in hearty sympathy with our work and assists us in many ways.

IX. Our work is supported entirely by private charity. Our annual budget is about \$3,200.

X. The total population of the city is 100,000 plus. The total number of births for the year ending October 1st, 1913—2,950. The total number of births for the year ending October 1st, 1914—3,066. The total number of deaths under one year of age for the year ending October 1st, 1913—292. The total number of deaths under one year of age for the year ending October 1st, 1914—284.

XI. Our city is in the registration area for births.

XII. We consider the most effective branch of our work personal instruction by the nurse. The most difficult problem is the persuading of the mothers to attend the conferences.

A. C. EASTMAN, M. D., *Medical Director.*

MICHIGAN

BABIES' MILK FUND ASSOCIATION

Detroit

I. Organized June, 1911.

II. Our work began with the maintenance of two prophylactic dispensaries in districts which seemed especially in need of such work, and we have organized others as the need appeared and our funds permitted. At first we distributed a good deal of milk and other supplies free to poor mothers, but we have practically ceased this form of relief, spending all our money on educational and nursing work.

The highest number of dispensaries we have maintained at any time was six; we now have four. Our policy is, as fast as the Board of Health is in a position to cover any district, to leave the field and start in some other location, and we have in this way discontinued our work in three of the central districts.

Prenatal Work: All the prenatal work now being done is under the direction of the Board of Health and the Visiting Nurse Association. Our nurses refer expectant mothers to these organizations, and the babies are later referred again to us.

Breast-Feeding: Great efforts are made to ensure breast-feeding. Mothers are instructed in the care of well babies by means of house-to-house visits and conferences with the doctor and nurse at the dispensary, where individual instruction is given. Classes for mothers were attempted but were unsuccessful. Nursing care is given sick babies in the home; sick babies are also sent to the Children's Free Hospital when possible. The distribution of milk has been practically discontinued, the various relief organizations having included an allowance for milk in their family relief budgets. No modified milk is dispensed, all modifications being taught in the home.

III. The work is carried on all the year. There are no definite statistics to show the effect of our work in infant mortality and morbidity. The infant mortality for the city at large is diminishing somewhat, but we are not the only agency at work. The Board of Health is broadening its infant welfare work gradually, so that we cannot claim the credit for all the improvement.

IV. Our staff has a medical director and four assistant doctors, one superintendent of nurses and five other nurses.

V. We work in certain districts in which the mortality map shows a particularly high infant mortality, and do not attempt to cover the whole city, nor the districts where the Board of Health is doing special work. Each nurse has an average of 100 babies, each under one year. During the first month the Board of Health supervises all midwife cases, after which time the mother is referred to the Babies' Dispensary in the district in which she lives. Other agencies refer a small percentage of cases; approximately 1,200 new mothers are reached each year. The figures show a larger number of mothers with first babies and a considerable increase in number of babies admitted under one year. The age limit of two years has been adopted with the exception of the congested district where the age limit is 18 months. Here the average number of current cases under one year is approximately 275.

VI. The Board of Health, the Children's Free Hospital and the Michigan Children's Home Society, a "placing out" association, are all in active cooperation with this association in baby welfare work.

VII. Mothers of the so-called middle-class, who are living within the districts served are admitted for instructions and observation of their children. In case of illness they are expected and advised to call their family physician.

VIII. Correlation with the Health Department is attempted in the division of districts for the establishment of stations and the assignment of field work and in the division of age limits of patients; with the Children's Free Hospital in supplying nurses for care of our patients during two months this summer (August and September, 1914); with the Visiting Nurse Association in the rotation of nurses for re-

ciprocal training and experience; with the Associated Charities in the organization of a Study Club for Social Workers and Public Health Nurses.

IX. The work is supported by private charity entirely, with an annual budget of \$10,000.

X. City population about 600,000.

THOS. B. COOLEY, M. D., *Medical Director.*
ZOE LA FORGE, *Superintendent.*

VISITING NURSE ASSOCIATION

Detroit

Organized 1900.

During the last twelve months, four members have been added to our force, and there are now twenty-one visiting nurses on our staff, including one nurse, and half the time of another, employed by the Society for the Study and Prevention of Tuberculosis.

Work is divided among them as follows: Two are supervising and directing, three are doing work for the Babies' Milk Fund, one gives her entire time to maternity cases, half the time of one nurse is given to tuberculosis work, one does social service work in connection with the Children's Free Hospital, and fourteen are doing general nursing, two of these giving their entire time to Metropolitan Life insurance cases, the company paying for each call. Half the time of one is given to the Michigan Children's Home Society, her work being the very important one of supervising caretakers of babies.

The Association is caring now for more than three times as many patients as it was four years ago, although in that time the staff has not quite doubled. The number of patients this past year was 2,829 and the number of visits 43,223.

The disproportionate increase is due partly to the greater amount of work done in dispensaries, but largely to the fact that owing to the number and urgency of calls, the nurses have been working at very high pressure.

There are four free dispensaries which our nurses attend, the Jewish Institute, Delray, West Side and Italian Institute. At the Jewish Institute alone over three hundred babies are under the nurse's care, and there have been as many as 374 other patients in one month. The average number of patients a month in the Delray and Italian dispensaries is from 90 to 100.

Statistics show that 45 per cent of the population of Detroit is foreign or children of foreign-born parents, and a large part of the nurse's time is given to these people. The patients at the West End Dispensary are almost exclusively Polish; in Delray, Hungarian; at the Italian Clinic, Italian; and Jewish at the Jewish Institute; and it would not be too much to say that the influence of the visiting nurse in making good citizens of this raw material, is second only to that of the churches and schools.

For three months during the summer our Association furnished the services of a nurse for the Bay Court recreation home. This year 505 mothers and children were entertained for periods of two weeks at a time. Minor ailments and general care and supervision kept the nurse strenuously occupied.

Cooperation has always been a guiding principle of this Association, and through the exercise of that function it has been the means of laying a good foundation for public health nursing in Detroit. School nursing, tuberculosis nursing, prenatal instruction in the homes, maternity nursing, baby welfare, industrial insurance nursing, visiting house-keeping all owe their beginning in this community to the initiative or to the active cooperation of the Visiting Nurse Association. There is encouragement in the fact that some of those activities are now being fostered and developed by the Board of Health, and others by special philanthropic organizations. It is also an encouraging fact that there is a corresponding development of a better understanding of the inter-relation of the work and of the workers.

Our Association has continued its active interest in the Society for the Prevention of Infant Mortality, the National Organization for Public Health Nursing and the National Association of Charities and Corrections, the three national organizations with which it is affiliated.

ESTELLE ARMSTRONG, *Secretary*,
LYSTRA E. GREYER, *Superintendent*.

CLINIC FOR INFANT FEEDING

(of the D. A. Blodgett Home for Children)

Grand Rapids

I. Organized June 15, 1914.

GROWTH AND DEVELOPMENT ACCORDING TO YEARS

Babies and mothers reached during the four summer months of the following years:

(CLASSIFICATION)

1911—124—

Clinic attendance of different babies.....	24
Total attendance of babies.....	87
Mothers instructed.....	100
No visiting nurse.....	0

1912—323—

Clinic attendance of different babies.....	113
Total attendance of babies.....	208
Mothers instructed.....	210
Nurses' visits in homes (2 visiting nurses).....	1,400

1913—821—

Clinic attendance of different babies.....	305
Total attendance of babies.....	737
Mothers instructed.....	516
Nurses' visits in homes (3 visiting nurses).....	2,463

1914—1,235—

Clinic attendance of different babies.....	635
Total attendance of babies.....	1,207
Mothers instructed.....	600
Nurses' visits in homes (5 visiting nurses).....	3,414

We have no organized prenatal work. We only give advice to the pregnant mothers that we reach through the baby work, but a marked effect has been obtained from the instructions given in these cases. We have an auxiliary called the Wet-nursing Guild to raise funds to take care of this feature of the work.

House-to-house visits and weekly conference (often semi-weekly) with the doctors at the clinic stations, with individual instructions to the mothers are some of our means of caring for the babies.

We do not hold regular classes for the mothers except our clinics, which are held four days a week for the purpose of individual instruction.

Very sick babies are visited many times a day and often the nurse is compelled to remain with the child all day. If the home surroundings are too unfavorable for the babies' recovery; if an operation is necessary; or if constant supervision is required, the children are quite often placed in one of the hospitals.

We depend largely on the milk supply in the district in which the baby lives, supervising the child's supply. We furnish certified milk to sick babies and under-weights, regulating the price according to means.

III. Since the first of October, 1913, the work has been carried on continuously.

IV. During the summer months we employ one head nurse with four visiting nurses, and our medical staff is composed of four physicians, each of whom has one or more assistants, who all donate their services for three consecutive months each year.

V. Our city is divided into districts, each nurse having charge of a district, and all the work being supervised from the central station.

About 200 babies are under the supervision of each nurse.

We are brought in touch with our cases through the different organizations of the city; through our literature, which is sent to parents of all the new-born babies; through other mothers who have babies attending our clinics; through the press; through the obstetrical clinics; and also through the social settlements. Approximately every day cases are referred to us from other agencies.

For the year 1913 there was a total attendance of 956 babies and about 900 mothers.

Our age limit for children is from birth to five years.

VI. Our organization is the only one in the city engaged in baby welfare work.

VII. We instruct and advise any mother who wishes to learn more about the care and feeding of her baby.

VIII. We are not connected with any other organization aside from the D. A. Blodgett Home for Children and the Board of Health.

IX. Our work is supported by private subscriptions and the city. No appropriation from the state. The amount of our annual budget is (1913):

Voluntary subscriptions.....	\$2,300.00
City appropriation.....	1,500.00
Association of Commerce (voluntary subscription)....	289.05
	<hr/>
	\$4,089.05

X.

Population of Grand Rapids.....	123,227
Number of births for year ending Oct. 1, 1913.....	3,045
Number of births for year ending Oct. 1, 1914.....	3,186
Deaths under one year of age for year ending Oct. 1, 1913.....	418
Deaths under one year of age for year ending Oct. 1, 1914.....	401

XI. Our city is in the registration area for births.

XII. Our most effective branch is breast-feeding.

Our most difficult problem is to give the mother of ordinary means the instruction and help she requires without interfering with the family physician.

VIOLET LOVE HILL, *Superintendent.*
(MRS. ROBERT G. HILL.)

MINNESOTA

INFANT WELFARE DEPARTMENT, DULUTH CONSISTORY
SCOTTISH RITE MASONS

Duluth

I. Our work was organized in 1911.

II. The first year was general visiting work by the nurse from house to house. Second year, general visiting work, milk stations, baby clinics, little mothers' clubs. Third year, a continuation of second year's work.

Postnatal: (a) Instruction of mothers in care of well babies by means of house-to-house visits by the nurse. (b) Semi-weekly clinics with doctor and nurse in attendance are held during the summer months at two districts for sick and well babies. (c) Classes for little mothers are held twice a month. They are given instruction as to the proper care of babies. (d) We try to send sick babies to a hospital. The Masons maintain a ward for sick babies at St. Luke's Hospital of Duluth. (e) Whole milk is distributed to babies for whom bottle feeding is necessary. The nurse visits the homes and modifies the milk according to the doctor's instructions. Those who are unable to pay for the milk receive it free of charge. In all cases we try to make a special effort to insure breast-feeding.

III. Our work is carried on all the year round. In the years 1909 and 1910 the death rate in Duluth has been 122 and 120, respectively, for 1,000 births. Since the institution of infant welfare work in 1911 the death rate has not reached the one hundred mark. In 1912 the death rate was 97 and in 1913 it was 95 per thousand births.

IV. We employ one nurse the year round, and a physician during the summer months.

V. The work here is not specially organized, in any districts. The average number of babies under the care of the nurse is about fifty. We get our cases through birth records, different physicians, the Associated Charities and other visiting nurses. We reach three hundred mothers yearly. We care for 325 babies each year. We try to make the age limit three years.

VI. The Health Department of the City of Duluth employs a nurse to do prenatal work. We cooperate as much as possible with the city.

VII. Our work is not limited to mothers of small means. We try to get in touch with both poor mothers and those who are inexperienced, even though they may be well situated financially.

VIII. There is no correlation of our work with that of the Department of Health or any other association.

IX. Our work is supported by the Scottish Rite Masons. There is no appropriation from the city or state.

X. The total population of the City of Duluth is 91,435. The total number of births in the City of Duluth from January 1st to December 31st, 1913, was 1,962. The total number of deaths under one year of age from January 1st to December 31st, 1913, was 191.

XI. Our city is in the registration area for births, but it is not enforced.

XII. I consider the most effective branch of our work visiting from house to house by the nurse. The most difficult problem we have is winning the confidence of the mother and impressing upon her the importance of breast-feeding.

T. W. HUGO, *Director*

E. HEIKKILA, *Consistory Nurse.*

INFANT WELFARE SOCIETY

Minneapolis

I. Organized in its present form in June, 1912.

II. The society does both prenatal and postnatal work.

Prenatal: Cases come to us from the visiting nurses and from the obstetrical department of the University Hospital and are under our care for about three months. The nurses visit the cases about twice a month. While we have no statistics to show the effect upon the condition of the babies, the fact that about seventy per cent of the babies under our care are breast-fed is significant. We also give prenatal talks to expectant mothers.

The society makes a very special effort to insure breast-feeding and is having a considerable degree of success.

Postnatal: Our nurses visit the homes of both well and sick babies and give the mothers instruction as to the care of their children.

Twice a week conferences are held in each of our four stations (which are located in settlement houses), in charge of a physician and nurse. Once a month each nurse holds a mothers' meeting at her station. At this meeting a short talk is given by a physician.

If sick babies do not require hospital attention, the mothers are asked to bring them to the clinics for the advice of the physician. The nurse then goes to the home to see that the instructions of the doctor are carried out. If a baby needs hospital care, the case is put into one of the free beds at the hospital of the society. We are given thirty free beds at the City Hospital, five at Northwestern Hospital, two at St. Barnabas, and eight at the University Hospital.

When babies must be bottle-fed, arrangements are made with a reliable dairy for the delivery of certified milk.

III. Our work continues throughout the year, but is particularly heavy during the summer months. We have only the records of our own work upon which to base our judgment, but we have every reason to believe that our work has had a decided influence upon infant mortality and sickness in Minneapolis.

IV. Our staff consists of four nurses and five physicians, including the medical director.

V. We have organized our work by dividing the city into four districts, each district in charge of a nurse. The entire work is directed through the central office of the society, which is in charge of the assistant secretary. Each nurse has about one hundred babies under her care.

Our cases are reported to the central office of the society by the visiting nurses, the Associated Charities, dispensaries, hospitals, social settlements and by various welfare workers in the city. The secretary then refers them to the nurse in whose district they belong.

During the year ending October 1st, 1914, our nurses visited 3,196 new cases in the homes, reaching that many mothers. This is a considerable increase over the work of preceding years.

During the year ending October 1st, 1914, 551 new cases have attended clinics. This also is a material increase over previous records. At the age of two years a baby is discharged, at which time it comes under other child welfare agencies.

VI. We are the only organization in Minneapolis doing infant welfare work.

VII. Our work is largely among mothers of very limited means, but occasionally some inexperienced mothers of better circumstances attend the clinics.

VIII. At present we are not connected with the Department of Health but we have their cooperation, and it is possible that at the first of the year, at their special invitation, the society may have its office in the quarters of the Health Department. We also have the cooperation of the Associated Charities, the Visiting Nurses' Association and of other organizations previously mentioned in this report.

IX. The society is supported by private contributions and has no appropriation from the city or from the state. The annual budget amounts to about \$5,000.

X. The total population of Minneapolis is 343,466. Total number of births, year ending October 1, 1913—8,056. Total number of births, year ending October 1, 1914—unavailable. Total number of deaths under 1 year in 1913—607. Total number of deaths under 1 year in 1914—unavailable.

XI. Minneapolis is in the registration area for births.

XII. Postnatal work is our most effective branch of work, as is evidenced by the attendance at clinics and at the mothers' meetings.

XIII. Our greatest problem lies in overcoming the influence of prejudiced individuals, both lay and professional, and in arousing sufficient continued public interest in the work.

F. W. SCHLUTZ, *Medical Director.*

MISSOURI

BABY WELFARE ASSOCIATION

St. Joseph

The St. Joseph Baby Welfare Association, 2307 S. Sixth Street, St. Joseph, Missouri, was organized in 1904, under the name of the St. Joseph Free Kindergarten and Day Nursery Association, doing kindergarten work until 1912. In that year conditions in the neighborhood and city having changed, as an experiment a nurse was employed to look after the sick children, using the Association building as a distributing point for milk and ice. The work was found to be very beneficial and needed, and October 9, 1912, the board decided to drop the kindergarten work and engage in baby welfare work exclusively. The name of the Association was changed February, 1914, to the St. Joseph Baby Welfare Association and incorporated under the laws of the state. March 1st, 1912, one nurse was employed and has been at work steadily since that time caring for from 25 to 40 babies a month; modified milk being furnished to from 17 to 31 babies a month. During the summer months of 1913 and 1914 we employed an extra nurse. The work has been very satisfactory. We get our cases from the physicians in the city, Social Welfare Board, mothers coming of their own will and other social agencies. We have just begun our prenatal work and can give no statistics as to results. Mothers of the well and sick babies are urged to attend the clinics at the Association Dispensary every Friday morning, where they are instructed by physicians in prenatal and postnatal care. Especial stress is put on maternal feeding and our best work is among the mothers who try to nurse their own babies. Card record kept of every baby; especial stress laid on weight. Nurses visit the homes of babies often and instruct mothers in care of self and infant, and where necessary in home modification of milk. We are arranging for a special class for mothers at the dispensary every two weeks. Babies or mothers needing special treatment are referred to specialists. We have an arrangement with St. Joseph's Hospital to take care of babies needing hospital treatment.

Milk is distributed from the dispensary every morning, whole or modified; mothers either send or come after it. We require pay for it in all cases if possible. Some are taught to modify milk in their homes. The work is carried on the year round. We employ two nurses and a helper at the dispensary and have one physician who holds a clinic once a week. The physicians of the city are heartily endorsing the work. The city is not districted but work is carried on from our dispensary which is located in that part of the city where our work is most needed. We have cared for 250 babies during the summer and are the only organization in the city doing this special work. Our work is mostly among mothers of limited means, although we reach many more favorably situated. We take no babies over two years of age. We are not associated with any other organization, but have the hearty cooperation of the Health Board and of various church societies.

Our work is supported by voluntary donations, public and private. Newspapers have been a great assistance. No appropriation from city or state.

Population of city—77,340.

Total number of births for year ending October 1, 1913—993; for year ending October 1, 1914—1,046. Unable to report total number of deaths for year 1913 or 1914 under 1 year. Vital statistics under direction of the State, but this information is not obtainable from their report. We have under way a plan that will enable us to secure such statistics. Our city is in the registration area for births. Our most effective work is among the mothers, but most pronounced results are in infant feeding under our direction. Most difficult problem is not finances, but to secure regular attendance of mothers at the dispensary clinics.

MRS. E. S. BALLARD, *Secretary.*

CHILDREN'S HOSPITAL

St. Louis

I. Organized 1879.

The hospital maintains two departments. One in the city with medical, surgical and infant wards, and a separate building with wards for contagious diseases. It is affiliated in its work with the Washington University Medical School. It also maintains a country department with beds for convalescent patients and children with tuberculosis.

II. Prenatal and Postnatal Work: This is a combined effort of the obstetrical department of the Washington University and the Children's Hospital. Cases are followed from early pregnancy until one year after birth. The follow-up work is under the direction of the social service department. In addition, over 1,000 sick infants a year are treated in the out-patient clinic and infant ward of the hospital. Visiting nurses for out-patient clinics are maintained. The hospital contains a milk station where milk modified by the Pure Milk Commission is given out.

III. Work is carried on throughout the year.

VI. A Baby Welfare Association has recently been formed to take up baby welfare work. During the summer two nurses were employed. The hospital and Baby Welfare Association cooperate.

VII. Work is devoted almost entirely to classes with very limited means.

VIII. The hospital cooperates with all of the institutions in the city having to do with children.

IX. The hospital is supported by private charity and receives no appropriation from the city or state. The annual budget amounts to about \$60,000 a year.

X. Total population is 750,000.

15,188 total births from October, 1912, to October 1913.

15,368 total births from October, 1913, to October, 1914.

1,469 total deaths under 1 year from Oct., 1912, to Oct., 1913.

1,187 total deaths under 1 year from Oct., 1913, to Oct., 1914.

XI. Yes.

XII. Our most difficult problem consists in handling the rapid increase in the work of the hospital which has taken place in the past two years.

BOB DEN VEEDER, M. D.

NEW JERSEY
BOARD OF HEALTH
Montclair

The Board of Health of Montclair maintains a Baby Clinic with a voluntary physician in charge. Milk, sugar, lime water, milk dippers and other supplies are furnished to indigent families. A full time nurse is employed by the Board and all midwife cases are followed up in addition to the regular feeding work. The nurse not only attends to the clinic babies, but visits any other home where her services are needed and instructs mothers as to the proper modification of milk.

The following ordinance in regard to midwives should be of interest:

"Every person acting as a midwife in the Town of Montclair shall notify the Board by telephone or telegraph, at the expense of the Board, immediately after he or she is called to attend a confinement, or as soon thereafter as the office of the Board is open, and such notice shall give the name and exact address of the person who is to be attended by the said midwife."

A certified copy of all birth certificates is returned to the parent together with a letter in which the value of the birth certificate is set forth, and with the request that it be returned if any inaccuracies are noted.

Last year our Board cooperated with the Children's Bureau at Washington in obtaining complete information in regard to all children born in the town during 1912. This report will doubtless be published by the Children's Bureau within a few weeks.

C. H. WELLS, *Health Officer.*

THE DIET KITCHEN OF THE ORANGES

The Diet Kitchen of the Oranges was organized April 13th, 1895.

We have two supply stations, at the "Main Kitchen" are held a "Consultation Class" for mothers, and a "Little Mothers' Class" for teaching little girls the essentials of personal and infant hygiene.

Here also milk is modified for a few babies and milk and eggs distributed daily to the sick poor.

At the Valley Branch milk is also distributed daily.

Charges for supplies are determined by the ability of patients to pay.

We have two doctors on our staff who give their services at the consultation classes, one nurse and one social worker.

In 1913 a Baby Welfare Association was organized by the Officers of the Health Board of Orange, East Orange, West Orange and South Orange. This resulted in the division of the municipalities into seven districts, two of which are under the care of the Diet Kitchen. The other societies supervising districts are the Visiting Nurses' Association, The East Orange Society for Aid to the Sick and The South Orange Society for Lending Comforts to the Sick.

The Orange Board of Health employs a nurse who has charge of one district and reports births to the districts within its boundaries.

A physician is in attendance one afternoon each week at the consultation classes held at our two welfare stations.

Out of 339 babies visited from October, 1913-October, 1914, there were but ten deaths, only one from intestinal trouble.

We receive our prenatal cases through visits made by our nurse. The mothers are under our care for about six months and our nurse visits them every two weeks.

The results of this work have been most gratifying, mothers who have never nursed their babies before have been able to do so. Where bottle feeding is necessary we endeavor to teach the mothers to prepare the milk, where that is absolutely impossible the milk is prepared at the Kitchen. We consider home instruction the most important feature of our baby welfare work.

We are the only society distributing milk.

We get our cases through the birth records, doctors and charitable organizations. Most of the mothers are poor, but we have a few cases among the well-to-do.

We keep the babies up to two years of age.

The City of Orange pays for some milk cases but our society is supported by voluntary contributions.

ANNA T. STEWART, *Secretary*.

NEW YORK

BROOKLYN PEDIATRIC SOCIETY

What it Was: This society was organized October 31, 1899, and held regular meetings until early in 1901, at which time, by vote of the members, it became the Section on Pediatrics of the Medical Society of the County of Kings. The work of the society and of the section was practically limited to interchange of knowledge in the field of general medical pediatrics. In the latter part of nineteen-thirteen, it became apparent that a much wider and more useful field of work might be filled by a return to independent existence. Reorganization was undertaken and completed by the first of the present year.

What it Is: A society that invites to membership every practitioner on Long Island, who is in good professional standing and whose work brings him, in any way, into contact with children. The membership on October 25, 1914, including applications pending, was 167—the average attendance at the monthly meetings—117. Within 10 months the membership therefore has trebled, active interest has more than trebled.

What We Are Trying To Make It: 1. Still a society for the interchange of information among those interested in children—still the place for the general medical pediatricist but also the place for the specialist who deals with infants or children in carrying out his regional, or other, restricted line of work—in other words

2. A clearing house for pediatric knowledge. The medical man especially trained in children; in their marked anatomical and physiological differences, as from the adult; in the diseases peculiar to them and their peculiarities in the diseases not peculiar to them; fairly carries the title of pediatricist. He is, however, a specialized general practitioner—a general practitioner in children. At his elbow are the surgeons—the specialists in various lines. To them he must turn in matters of obscure regional diagnosis, when his therapy cannot reach into specialized organs, or when expert work with the scalpel is indicated. The pediatricist has much to learn from the specialist, especially in fine points of diagnosis that would lead to prompt recognition of special conditions and the institution of early treatment. The specialist,

on the other hand, engrossed in his particular part of the body, treats usually the adult and the "little adult." His ministrations would often be more successful if the pediatricist could teach him the vital differences, as between the child and the adult, could give him a better view-point of children—the general factors that bear, often heavily, on local diagnosis and therapeutics.

It is a pleasure to note that the list of applications for membership, at the past two meetings, includes a number of names of those in special work.

3. A strong organization, taking a practical interest in child welfare. In other words, the promotion of activities which give to the infant and child a fair chance for a natural birthright—life and health. This field, of necessity, takes in the large subjects of eugenics and the reduction of infant mortality.

Acting upon the initiative of this society, the Brooklyn Conference of Agencies Interested in Children's Welfare has already been formed, and has held two meetings this summer. It is designed to serve as a clearing house for all matters of interest to those engaged in any and every phase of welfare work for children in Brooklyn, and is made up of delegates from all such agencies. The secretary of the conference is Miss Byington, of the Brooklyn Bureau of Charities.

FRANK HOWARD RICHARDSON, M. D., *Secretary*.

THE BABIES' DAIRY

New York

Babies' Dairies are practical feeding stations for the preparation of modified milk for sick infants. The first dairy was opened in June, 1908. There are now three dairies situated in the most crowded sections of the city. The death rate has been 4 per cent of the patients treated. The cost of conducting a dairy is about \$1,200 a year, and in each, from forty to fifty babies a day, after careful examination by the physicians, can be supplied with the proper food which is prepared by the nurse in charge. The feedings necessary for a period of twenty-four hours are placed in separate bottles, packed in ice and enclosed in refrigerator boxes specially constructed for the purpose. The success of the dairies is largely due to this special care in preparation and distribution. Home visiting, by the dairy nurses, and careful instruction as to the care and feeding of babies, form an important part of the work.

The following table shows the increase in the work at the dairies during the five years:

	1st year 1 dairy	2nd year 1 dairy	3rd year 2 dairies	4th year 3 dairies	5th year 3 dairies
No. of feedings distributed..	6,205	5,561	11,271	26,473	31,998
No. of babies fed.....	139	87	248	488	539
No. of deaths.....	16	9	11	14	13

REUEL A. BENSON, M. D.

BUREAU OF MUNICIPAL RESEARCH

New York

Organized in 1906 as the Bureau of City Betterment; in May, 1907, as the Bureau of Municipal Research.

The Bureau of Research is vitally interested in infant welfare work as one of the problems of city government. It does not however carry on actual infant welfare work, but endeavors to see that it is carried on by city officials. Our work is getting things done by those who are officially charged with such work rather than actually doing them.

In the past eight years the Bureau has conducted surveys of various city departments in New York and elsewhere, the object of such surveys being to suggest more efficient methods to city officials. Health surveys have been made in New York, Atlanta, Syracuse, St. Paul, Dayton, Pittsburgh, Reading, Springfield, Mass.; New Brunswick, N. J., and other cities. In such surveys an effort has been made to point out the necessity for infant welfare work and to suggest measures for rendering this work effective.

We endeavor to cooperate with all agencies public and private in getting city business done most effectively. The Bureau is supported by voluntary contributions from citizens of New York and elsewhere.

CARL E. MCCOMBS.

CAMP FIRE GIRLS

(Headquarters: New York City)

We cannot furnish a report along the lines indicated in the schedule because our work is of a different sort. One of the requirements before becoming a "Fire-Maker" is:

"To name the chief causes of infant mortality in summer. Tell how and to what extent it has been reduced in one community."

We have 64,000 girls in the Camp Fire groups—so we can record that number as having some knowledge or as looking forward to knowing about this specific subject.

The following extract from an article by Mrs. Gulick on "How Camp-Fire Girls Are Being Educated in Baby Craft," outlines some of the ways in which Camp-Fire Girls are cooperating in the movement for the study and prevention of infant mortality:

"The Camp-Fire Girls are attacking with great earnestness the subject of baby-craft, and they need the cooperation of boards of health in getting necessary data. They should be able to visit milk stations, see how babies are weighed, and how milk should be prepared, and get the figures on infant mortality in their own community. It is far more effective to see things done than to read about them. If the girls could take their own baby brothers and sisters once a week to be weighed and measured, they would learn things of much importance. We should like to have them chart the figures and study the curves in reference to growth and disease.

"Among the requirements for the rank of Fire Maker is knowledge of the chief causes of infant mortality in summer, and ability to tell how and to what extent it has been reduced in at least one American community. This covers of course a knowledge of personal hygiene, diet, proper clothing, ventilation and the value of fresh air.

"In the list of elective honors required to win promotion, the following tests involving the care of the baby are included:

"1 Know how to care for a baby's bed.

"2 Know how milk should be prepared for a six months' old baby; know what is good milk for a baby a year old and how it can be tested.

"3 Know how much a baby should grow in weight each week for the first six weeks, in height for each month for the first year. The relation of weight to disease and vitality.

"4 Know and describe three kinds of cries of a baby and know the cause of each.

"5 Care for a baby for an average of an hour a day for a month.

"6 Make a practical set of playthings for a child three years old.

"7 Make a set of baby clothes.

"A knowledge of sleeping, feeding, health, amusement and clothing covers the practical and material needs of babyhood. But more fundamental than these tests in the actual care of babies is the knowledge of eugenics which will help to show the girls the effects of heredity and environment. By making practical tests of the value of pedigreed seeds and animals, as against those not pedigreed, the girls are shown in a concrete way the effect of environment and heredity in the generation of plant and animal life. With this in view, an honor is given to the Camp-Fire girl for experiments with a garden planted with good seeds, also for experiments showing the influence of cultivation and environment on seeds of poorer quality. She plants a plot with seeds treated with a suspension of bacteria and another not so treated, and keeps account of the results. Besides winning her an honor, this serves to point out the value of cultivation and care in their ultimate effects on reproduction in all life. For this demonstration in nature of the value of some one factor in heredity or environment, with its effect on health, endurance, length of life, color and form, is only symbolical of what can be done to alter the condition of human life."

LUTHER H. GULICK, *President.*

COMMITTEE FOR THE PREVENTION OF BLINDNESS INFANT WELFARE WORK

New York City

Organized June 1, 1908.

The work of the Committee during the year ending October 1, 1914, has, like that of preceding years, consisted of investigation into the preventable causes of blindness and impaired vision; cooperation with various agencies and individuals in practical measures for the prevention of blindness; the support of such legislation as was believed would further this work; and the education of the public at large concerning these causes by means of the publication and distribution of literature, public speaking, photographic exhibits, lantern slides, magazine articles and the press.

The subjects considered by the Committee are ophthalmia neonatorum, midwifery reform, trachoma, lighting, industrial accidents and wood alcohol. The infant welfare work of the Committee is comprised in its ophthalmia neonatorum and midwifery work; a report upon these is herewith appended.

OPHTHALMIA NEONATORUM

Statistics: Figures recently collected by the Committee from schools for the blind throughout the country show that out of a total of 2,499 pupils in 19 schools, 600, or 24 per cent of the pupils are needlessly blind from ophthalmia neonatorum; 84 of the 428 children, or 19.6 per cent of those admitted for the first time during the last school year are blind from ophthalmia neonatorum. This percentage is 3.1 per cent less than for the preceding year.

Cooperation: As work for the prevention of blindness from "babies' sore eyes" (ophthalmia neonatorum) progresses, the Committee is more and more convinced of the importance of having all cases of "babies' sore eyes" reported to local health officers and having immediate and adequate medical care secured for cases reported. The Committee is endeavoring, through cooperation with the State and City Departments of Health, to promote these sight-saving measures.

Cooperating with the Committee on Prevention of Blindness of the National Organization for Public Health Nursing, a plan is being devised to secure the interest and assistance of visiting nursing organizations throughout the country, who will be urged to include the prevention of infantile blindness as a part of their work.

MIDWIVES

Upon request this Committee submitted to the Public Health Council of the New York State Department of Health "recommendations and suggestions for the regulation of the practice of midwives in New York State." These provided for:

1. The licensing and registering, by the State Department of Health, of women desiring to practice as midwives, pending the adoption of legislation empowering the Board of Regents to examine and license them and to regulate training schools for midwives.

2. The adoption of rules and regulations, by the Public Health Council of the New York State Department of Health, governing the practice of midwives.

3. Changing the name of the Division of Public Health Nursing of the State Department of Health to the Division of Public Health Nursing and Midwives, this division to be charged with enforcing the "rules and recommendations" and other details of administrative work.

The Public Health Council of the New York State Department of Health is empowered to amend the Sanitary Code, and the Sanitary Code may include any rules and recommendations governing the practice of midwifery. Accordingly rules and regulations adopted by the Public Health Council and included in the Sanitary Code will have the effect of law.

Active interest in the midwife question is being shown by the Public Health Department of the General Federation of Women's Clubs, the National Organization for Public Health Nursing, the New York State Medical Society, as well as a number of local women's clubs and medical and nursing organizations.

At the annual meeting of the National Organization for Public Health Nursing an afternoon session was devoted to the midwife question, and much interest was aroused among nurses engaged in visiting nursing and public health work. The Executive Board reappointed the com-

mittee, under whose auspices this meeting was held, and adopted the following resolutions:

WHEREAS: The functions of a midwife are the conduct of normal labor; the nursing care of pregnant and parturient women and their infants; and the instruction of mothers in the care of their infants; and

WHEREAS: This old and honored branch of the art of nursing—to quote from Florence Nightingale—has been allowed to retrograde in this country through lack of recognition of its importance, through lack of knowledge of its seriousness, and through lack of endeavor on the part of those in a position to raise and hold this profession to a desirable standard; and

WHEREAS: In the interest of the prevention of infant mortality and morbidity, as well as the prevention of unnecessary death and invalidism of mothers, it is urgent that mothers and babies among the poor in both urban and rural communities be provided with better obstetrical and nursing care; and

WHEREAS: The nursing profession feels deeply its responsibility in this direction; therefore

BE IT RESOLVED: That midwifery be recognized as a branch of visiting nursing work;

That nurses with obstetrical training who are eligible to register as midwives be urged to so register with their state or local authorities, for the sake of exerting their influence and lending their aid toward raising the status of the profession of midwifery; and

That in the communities where the demand warrants, staff of public health nurses include among their members trained midwives or graduates of accredited lying-in hospitals, to respond to the maternity calls—all of these for the sake of securing better medical and nursing care for mothers and their infants among the poor.

One important outcome of this meeting was the interest shown by the midwives of St. Louis who have since organized themselves into a body which has for its main object the advancement of work for the prevention of infantile blindness and death.

Coincident with this meeting, plans were discussed concerning the possibility of establishing a course of midwifery in an important hospital in St. Louis. Should this course be established, it will be open only to graduate nurses.

As this branch of the Committee's work is largely based upon the system of midwife control in England, it has been encouraging to receive recent letters making favorable comment upon the practical results of the English Act from a number of influential obstetricians and public health workers, and also to learn that Scotland and Ireland are endeavoring to secure a law similar to the English Midwives Act of 1902.

PUBLICITY WORK IN CONNECTION WITH OPHTHALMIA NEONATORUM AND MIDWIVES

The Committee has published articles on the midwife question in the American Journal of Public Health; assisted in the preparation of a circular of "Directions for the Prevention of Blindness from Babies' Sore Eyes," to be issued by the New York State Department of Health,

and a similar leaflet for the Committee on Conservation of Vision of the American Medical Association; and is at present preparing a circular of advice and instruction in regard to midwives for the lay public, to be printed and distributed by the Metropolitan Life Insurance Company.

Lectures or addresses on the subject of midwives and ophthalmia neonatorum have been given before the Chicago Nurses' Club, two groups of students at Teachers' College, the West Virginia State Nurses' Association, the Ophthalmological Section of the New York State Medical Society, the Conference of Workers for the Blind and for the Prevention of Blindness, as well as two sections of the National Organization for Public Health Nursing and the General Federation of Women's Clubs.

The Committee has issued an edition of 3,000 copies of the Secretary's report upon her study in England of the working of the Midwives Act of 1902, being a pamphlet of 140 pages, entitled "The Midwife in England," with an introduction by Dr. J. Clifton Edgar.

In all 38,402 copies of the Committee's publications on prevention of blindness work have been distributed, while the Committee's exhibits and lantern slides have been widely used throughout the country, by other workers interested in the prevention of blindness from babies' sore eyes, and in reaching a solution of the midwife problem.

Respectfully submitted for the Committee,

CAROLYN C. VAN BLARCOM, *Executive Secretary.*

DIET KITCHEN ASSOCIATION

New York City

I. Organized and incorporated 1873.

II. Was first formed at request of dispensary physicians "to provide nourishing food for the sick poor in their own homes." Originally dispensed gruels, soup, milk, beef tea, rice, etc., from the Diet Kitchens. Later confined form of nourishment to milk, and became one of the pioneers in the crusade for pure milk. Took active part in the war on tuberculosis, dispensing thousands of quarts of milk free to poor patients suffering with this disease. At all times has given out a great deal of milk for babies, and for eight years past has been aiding in the reduction of infant mortality by the work of its milk stations. At the present time, eight such stations are maintained largely for health work among mothers, babies and little children.

Work covers both prenatal and postnatal activities.

Prenatal Work: Cases are secured among the mothers of the milk station districts, also by canvassing, while some are received through other welfare agencies cooperating with the milk stations, and many are obtained from the mothers already coming to the stations with other children.

Five months average time under care.

Many mothers are at the station once a week or oftener for consultation with the nurse, while an effort is made to see even the cases in best condition as often as once in two weeks.

a. The effect in helping secure breast-feeding cannot be doubted, the improved nourishing of the mother producing excellent results.

b. The effect of prenatal work on general health of the baby is

perhaps more marked than increase in weight. Every effort is made to secure breast-feeding.

Postnatal Work: Mothers are instructed in care of well babies by home visits from the nurses, weekly conferences at the milk stations with doctors and nurses, and through daily consultations if necessary, with nurses who are each day at the stations for that purpose. Occasionally demonstrations and lectures to mothers are given at the stations.

Care of Sick Babies: The nurses visit the sick babies to see that all orders are being carried out, to give needed instruction to mothers, or to give emergency assistance, unless cases are under care of district nurses, who cooperate in care of sick babies. When necessary nurses arrange for admission of sick babies to hospitals or homes.

Milk Distribution: Whole certified milk is dispensed at the stations for bottle-fed babies at the price of ordinary milk. Mothers are taught at stations and in homes how to prepare the milk for babies according to doctors' formulae.

III. Our work is carried on throughout the year.

Infant mortality of New York City in 1910 was 125.6 per one thousand births; in 1913, 101.9 per thousand births.

IV. Nurses supported by association.....	8
Doctors, volunteers.....	12
Doctors assigned by Department of Health.....	6

V. All the organizations or agencies maintaining milk stations in New York City are affiliated with the Babies' Welfare Association and to such, definite districts have been assigned in the vicinity of their stations.

The New York Diet Kitchen Association maintains a nurse in each of its eight districts, the whole work being in charge of a supervising nurse.

Average number of babies under care of each nurse, 260.

Original starting point for the work was the cases coming to the stations for milk. Now cases are secured from other welfare and social service agencies, from hospitals, dispensaries, etc., and in some instances by canvass of the districts.

Approximately 4,700 mothers are reached each year.

The number steadily increases.

Number of babies, year ending October 1st, 1914—4,826.

Number increased over 1913.

Two years for conference work; no age limit for general health work among children.

VI. About two hundred agencies are engaged in infant welfare work in New York City. A little less than half of this number are federated in the Babies' Welfare Association, by means of which much excellent cooperation has been secured.

VII. Aim is to reach any inexperienced mother needing instruction, but overwhelming number of poorer mothers restricts efforts at present largely to this class.

VIII. Department of Health; nearly all the hospitals, settlement nurses, Charity Organization Society, Association for Improving the Condition of the Poor, and many other organizations engaged in social work are affiliated with the Babies' Welfare Association.

IX. Our work is supported mainly by subscriptions and contributions. We receive a yearly appropriation of \$500 from the city. Our

budget is approximately \$90,000.00. (This includes the cost of milk.)

XII. At the present time we consider our postnatal work the most effective feature of our work. The need of the present is for closer relations and more intelligent cooperation between the milk stations and the dispensaries and hospitals which treat the sick babies of the stations.

MARLA L. DANIELS, *Superintendent.*

JACOBI HOSPITAL FOR CHILDREN

New York City

The A. Jacobi Department for Children of the German Hospital is an integral unit of the hospital proper. It has been in existence for three years, and was founded to perpetuate the name of Dr. A. Jacobi, who is the Director.

Up to the present time, our department has been limited to four rooms. In the course of a few weeks we will have a new building, with a quarantine ward of 14 beds and two wards of 22 beds each. There will be also a private ward, consisting of eight rooms, where mothers will be permitted to remain with their children.

The hospital will be affiliated with the medical department of Columbia University. Third and fourth year students are to receive clinical instruction at the bedside.

A. L. GOODMAN, M. D., *Superintendent.*

METROPOLITAN LIFE INSURANCE COMPANY

New York City

MATERNITY SERVICE

The maternity service which the company gives to its industrial policyholders has been conducted during the years 1913-14 along the lines which have been adopted for this service in years past. Careful studies have been made by the company of the results obtained through the maternity service, particularly to ascertain the number of visits required on the part of a visiting nurse to the average normal maternity case.

At one time in order to obtain data on the subject, the company notified its nurses and the nursing associations with which it co-operates to limit the number of visits made to maternity patients to a maximum of 8. The results which were obtained lead the company to believe that it was warranted in advising nurses that while it was of the impression that 8 visits were ordinarily sufficient, the actual number of visits to be made might well be left to the professional judgment of the individual nurse in any particular case. The results which have been obtained justify this administrative order as will be seen from the statistics herewith attached. It may be said here in passing that where as in 1912 an average of 8-3/10 visits was paid to cases of normal childbirth covering 15-4/10 days of nursing per case, that in the year 1913, with no limitations as to service, the average case of childbirth required 7 visits covering 13 days of nursing care.

The work of the company until now has been limited to postnatal care. We have under consideration at the present time the extension of the work to include prenatal care as well. We are making careful studies of our records in the hope that such additional care can be given to policyholders. In maternity cases where there are complications of any kind, the nurse is expected to give service precisely as she would in any other case of acute disease.

In the year 1913, we cared for 20,959 puerperal cases in which a physician was in attendance. Of these, 18,942 cases were white females and 2,017 colored females. The colored cases represented approximately 10 per cent of the total. The statistics herewith rendered show no significant difference in the essentials of the service with respect to the two races except that the colored cases showed a higher percentage of deaths to cases under the diagnosis, "puerperal septicemia." The rate for colored cases was 6-7/10 as against a rate of 2-9/10 among the white females.

In 1913, 80 cases were reported as terminated by death as against 101 in 1912. This number should be considered in terms of 20,959 cases or a rate of 4/10 of 1 per cent. This is an extremely favorable showing if we assume that the returns even approximate the true conditions which result from childbirth and allied causes. Some cases undoubtedly come to a fatal termination subsequent to our discharge of the case, and, therefore, do not appear in these figures. Our mortality statistics for the year 1913 show 1,738 deaths from the puerperal state. We are now analysing these 1,738 deaths and comparing them with the cases that were nursed during the year to ascertain how many of the later died after they were discharged by our nurses. The data obtained should be very valuable in determining whether the service which is at present being rendered is sufficient or whether it should be continued for longer periods of time. Naturally, it may be assumed that other deaths, not recorded in our nursing statistics but which we have found in our mortality statistics, may have occurred in the hospitals, etc., to which patients were transferred. In 1913, we had 1,633,044 premium paying female policyholders between the ages of 20 and 40. In this year, 18,470 females, white and colored, between the ages of 20 and 40 received our nursing service for maternity under the auspices of an attending physician. This is a rate of 11-4/10 per thousand females at the childbearing ages. In 1912 this same ratio was 9-6/10. The data given will serve as an index of the extent to which our maternity service is availed of by policyholders.

EDUCATION OF POLICYHOLDERS

The various pamphlets which we have from time to time prepared for the use of our policyholders, instructing them in prenatal care and in the care of the baby, have been distributed by us to our policyholders during the year 1913 in large quantities.

The pamphlet, "The Child," continues to be a favorite among mothers and those expecting maternity. The value of this pamphlet is possibly best demonstrated by a letter which we received a few weeks ago from Miss Mary Beard, of the Boston Visiting Nurse Association, from which we abstract the following: "Before closing I should like to write you of an incident showing the value of your publication 'The Child.'

I was making a visit with a nurse in East Boston. The patient was *not* one of your policyholders. She was a woman expecting to be confined in a few months. I found her so intelligent in the care of herself that I asked her how she knew certain principles of hygiene which she was observing. She said, 'I have a book which tells me what to do.' When I asked to see the book she said, 'It is in Yiddish and you could not understand.' Finally she brought it out and it proved to be a well worn and well read copy of 'The Child'."

During the past year we have published and distributed a book entitled "Milk," written by Professor Milton J. Rosenau, of the Harvard Medical School, which has obtained a wide circulation among policyholders, and which from the comments that have been made about it since its publication, meets a want in the community that has long been felt. This little booklet while being scientifically accurate is written in a very popular form and the method of its presentation to the public makes it thoroughly readable and understandable.

ANALYSIS OF DISEASES AND CONDITIONS OF THE PUERPERAL STATE

TABLE I

NUMBER OF CASES NURSED IN 1913 WITH PHYSICIAN
IN ATTENDANCE, BY COLOR

DIAGNOSIS	CASES	
	NUMBER	% OF TOTAL
<i>White Female</i>		
Accidents of pregnancy.....	2,377	2.7
Childbirth	13,726	15.8
Puerperal septicemia.....	693	.8
Puerperal albuminuria and convulsions.....	257	.3
Other diseases subsequent to childbirth.....	1,889	2.2
Total puerperal state.....	18,942	21.8
<i>Colored Female</i>		
Accidents of pregnancy.....	311	2.1
Childbirth	1,489	10.1
Puerperal septicemia.....	75	.5
Puerperal albuminuria and convulsions.....	21	.1
Other diseases subsequent to childbirth.....	121	.8
Total puerperal state.....	2,017	13.7
<i>White and Colored Female</i>		
Accidents of pregnancy.....	2,688	2.6
Childbirth	15,215	15.0
Puerperal septicemia.....	768	.8
Puerperal albuminuria and convulsions.....	278	.3
Other diseases subsequent to childbirth.....	2,010	2.0
Total puerperal state.....	20,959	20.6

TABLE II

NUMBER OF CASES NURSED IN 1913, WITH PHYSICIAN IN ATTENDANCE
TOTAL NUMBER OF VISITS, NUMBER OF VISITS PER CASE AND
THE NUMBER OF DAYS OF NURSING PER CASE

Diagnosis	Number of Cases	Total No. of Visits	No. Visits per Case	Days of Nursing Per Case
<i>White Female</i>				
Accidents of pregnancy	2,377	14,790	6.2	10.2
Childbirth	13,726	96,462	7.0	13.0
Puerperal septicemia	693	8,902	12.8	16.0
Puerperal albuminuria and convulsions	257	2,576	10.0	21.3
Other diseases subsequent to childbirth	1,889	19,197	10.2	16.3
Total puerperal state.....	18,942	141,927	7.5	13.2
<i>Colored Female</i>				
Accidents of pregnancy	311	1,838	5.9	11.0
Childbirth	1,489	10,210	6.9	14.5
Puerperal septicemia	75	784	10.5	16.5
Puerperal albuminuria and convulsions	21	142	6.8	16.0
Other diseases subsequent to childbirth	121	1,063	8.8	15.3
Total puerperal state	2,017	14,037	7.0	14.1
<i>White and Colored Female</i>				
Accidents of pregnancy	2,688	16,628	6.2	10.3
Childbirth	15,215	106,672	7.0	13.2
Puerperal septicemia	768	9,686	12.6	16.1
Puerperal albuminuria and convulsions	278	2,718	9.8	20.9
Other diseases subsequent to childbirth	2,010	20,280	10.1	16.2
Total puerperal state	20,959	155,964	7.4	13.3

LEE K. FRANKEL, *Sixth Vice-President.*

NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR. INFANT WELFARE WORK—1914

MEDICO-SOCIAL RESEARCH DIARRHEAL DISEASE STUDY

In order to determine the relative importance of flies as compared with other insanitary conditions in the home, in causing infant diarrhea in New York City, the Bureau of Public Health and Hygiene of the Association for Improving the Condition of the Poor, assisted by the Department of Health, conducted during the summer of 1914 a three-months' study in the homes of one thousand Jewish, Irish and Italian families.

The thousand families were divided in two entirely similar groups, and were visited twice a week. In one group, intensive fly-protective measures were taken, consisting of free netting for screening the infant, the distribution of fly paper and educational literature and frequent

visits of nurses to instruct the mothers and record conditions. In the unprotected group the same number of visits was made, but naturally no emphasis was laid upon the fly. Every care was taken to avoid the many pitfalls of medico-social research; such influential factors as the age of the child and type of feeding were carefully measured.

The results of the analysis of 18,000 inspection cards, each representing a visit, afford a unique comparison of the importance of the different degrees of fly protection, and of different degrees of cleanliness and dirtiness of the home, on the basis of the number of infants attacked by diarrhea, and the number of such attacks.

Considering first the diarrhea in clean and dirty homes, without regard to any protection or lack of protection against the fly, our figures show that twice as much sickness and twice as many sick infants were found in the dirty homes as in the clean homes. The figures in these cases are 33 per cent of attacks and 28 per cent of sick infants in the dirty homes, and 16 per cent and 15 per cent, respectively, in the clean.

Flies, on the other hand, were shown to have an importance which depended largely on the condition of the home where they were found. In clean homes every indication was that their importance was small, while in dirty homes there was twice as much sickness and twice as many sick infants where the baby was unprotected from flies, over where it was protected. Here the figures are 53 per cent of attacks and 41 per cent of sick infants, as compared with 24 per cent of attacks and 22 per cent of sick infants.

When the condition of the home and number of flies are taken together and the comparison is made between the amount of diarrhea and number of sick infants among the well-protected infants in clean homes and among the unprotected infants in dirty homes, the most significant differences appear; almost three times as many sick infants and almost four times as much diarrhea was found among the less fortunate babies, the figures being 15 per cent of infants and 15 per cent of attacks under the good conditions and 41 per cent and 53 per cent, respectively, under the bad conditions.

For a long time the need of relative sanitary values in infant hygiene and public health work has been apparent. In presenting such values for fly protection and clean homes in New York City as determined by an intensive three-months' study, it is felt that an important step has been taken in the wide field of evaluation of health agencies.

PRENATAL WORK

Every expectant mother in the families under the care of the Association for Improving the Condition of the Poor is referred to the Bureau of Educational Nursing as early as pregnancy is noted. As soon as possible the nurse gets the mother under the care of a doctor and home or hospital care is planned.

Careful instructions are given as to diet, avoidance of alcohol, clothing, fresh air and exercise, personal cleanliness, care of breasts, observation of urine and stools. The mother is also shown how to prepare maternity and infant outfits.

The visits are continued to see that the instructions are carried out and also to guard against any complications which may arise. If necessary, the Relief Bureau sends extra food and relieves the woman

as far as possible from overwork. The visiting housewife is sometimes sent to help with the heavy domestic work. This oversight is particularly necessary with the mothers under our care.

THE HOME HOSPITAL FOR TUBERCULOSIS

One very significant phase of the new home hospital treatment for tuberculosis with which the Association has been experimenting for the last two years is the facilities with which infants suffering from tuberculosis can be cared for by this method of treatment. During the last two years in the hospital for tuberculous families, 189 infants have been under care. The tuberculous babies, placed in cribs on the roof and given careful formula feeding together with good nursing, have made an average gain in weight of 3.78 pounds in 180 days average residence. It is felt by those in charge of the Home Hospital that the results obtained with the infants and children indicate the real value of the experiment.

MISCELLANEOUS

The Association is, of course, continuing those activities which have previously been reported to this conference, such as the Sea Breeze Hospital and the Sea Breeze Fresh Air Home, the Caroline Rest for Convalescent Mothers, etc. In addition to these activities there should be mentioned the work of the New York School Lunch Committee and the Bureau of Welfare of School Children in the field of school hygiene.

DONALD ARMSTRONG, M. D., *Director, Department of Social Welfare.*

SOCIAL SERVICE BUREAU OF BELLEVUE AND ALLIED HOSPITALS New York City

I. Organized 1906.

II. In 1908—Salary for one worker for Children's Medical Clinic was furnished by the Association for Improving the Condition of Poor to demonstrate the need. This worker was taken over by the city at the end of six months. Since that date a social worker for following up babies discharged from the wards, also a worker for the maternity wards and a second worker for the Children's Medical Clinics have been added. In 1911 a child welfare advisory committee was formed for weekly conferences with the workers.

Prenatal work not yet undertaken.

Postnatal:

- (a) House-to-house visits.
- (b) Conferences with doctors at clinics only.
- (c) Weekly classes until infant is one year old.
- (d) House-to-house visits for demonstration and instruction; not for nursing care, except in a few cases.
- (e) Referred to special hospitals, eye, skin diseases.
- (f) No milk given out from hospital—referred to milk stations.

III. Work is carried on all the year.

IV. Staff of six nurses. No visiting doctors.

V. About forty babies in the care of each nurse. Source of cases—wards and out-patient department. About 1,800 mothers and about 2,500 babies cared for each year. The age of the children ranges from the newborn to 14 years.

VII. The Bellevue patients are people of very limited means.

VIII. Cooperation with all other agencies but correlation with Bellevue, Fordham, Harlem and Gouverneur hospitals only.

IX. Supported by the city—supplemented by private emergency fund and by two private salaries.

MARY E. WADLEY, *Executive Secretary.*

STATE CHARITIES AID ASSOCIATION

Sub-Committee For Assisting and Providing Employment for Mothers with Children

New York City

I. The work of the Committee was organized in 1893.

II. Postnatal Care: The instruction of mothers is done by a physician in daily attendance at our office and by visits to the homes where our mothers are employed. For sick babies hospital care or medical attendance is arranged.

On account of the wide distribution of our mothers in situations, we necessarily have to rely on the cooperation of our employers, and in some cases (in New York State) on the county agents of this Association.

III. Our work is carried on all the year around.

IV. We have one doctor, and one non-graduate nurse on our office staff.

V. Our mothers are distributed in parts of three states, and therefore are not districted.

The starting point of our work is the lying-in hospitals, and the social agencies of the city, the mothers coming to us with children ranging from two weeks to sixteen years. Last year we had 936 mothers in care. There is a yearly increase in the number of women in care.

Besides these, 520 applicants with their children passed through our office, for more than half of whom we were able to make plans (see Report 1913).

The number of babies and children equals the number of women in care.

There is really no age limit for the children reached by us, but we make a special effort to care for young babies.

VI. The Catholic organization of the Guild of the Infant Saviour, is the largest organization in New York City engaged in similar work. Besides there are the Salvation Army, the Florence Crittenton Mission, Heartsease Home, the New York Protective and Probation Association, the Church Mission of Help and others. We have no formal federation.

VII. In our work we aim to help mothers who are homeless or otherwise in straitened circumstances.

VIII. We have the co-operation of the Board of Health in analyzing blood tests which are made of every applicant.

The social service departments of many of the lying-in hospitals, notably, Sloane Hospital, send us mothers for convalescent care, advice and placement.

We cooperate closely with many charitable organizations, both in placing their cases and in securing from them convalescent care and outings for our mothers.

We make systematic use of the Social Service Exchange, conducted by the Charity Organization Society.

IX. Our work is supported entirely by private charity. Our annual budget varies (we refer you to our reports for 1912 and 1913). This year, exclusive of our doctor's salary, it was \$9,600.

XII. Two of the most effective branches of our work, we consider, are the care of the unmarried mothers and their children, and the medical examination of all of our applicants. The physician on our staff with daily office hours is a new departure in our particular line of work.

Our most difficult problem is naturally, the procuring of suitable employment for the mother who is handicapped with a child. Up to the present time, housework has been practically our only outlet. During the coming year we hope to be able to systematize a wet nurse agency, and to possibly secure boarding homes for mothers and babies to which the mothers can return from various forms of employment every night. There is a great need of this latter kind of help.

MARY R. MASON, *Agent*.

CHILD WELFARE ASSOCIATION

Niagara Falls

I. Organized June 23, 1913.

II. In 1913 cared for 55 babies. During July, August and September, 1914, cared for 60.

Prenatal work is contemplated.

Postnatal—includes weekly conferences, instruction of mothers, home care of sick babies, hospital care when needed.

We consider that our clinic and the work of the nurses in the homes are the most effective features of our work.

Our most difficult problems are to make mothers realize the benefit to be derived from regular attendance at the clinics, and to get them to follow directions.

CARL G. LEO-WOLFF, *Educational Director*.

HEALTH BUREAU

Rochester

The Health Bureau summer child welfare work was organized July, 1897. From a small beginning, one station and one nurse, the work has grown until during this past season there were 13 stations and 16 nurses. The work is carried on only during the months of July and August and all of the stations are located in schools. The work is carried forward by school nurses assisted by other trained nurses, who in most cases

have had experience in child welfare work. Up to the present time we have been able to do very little prenatal work, but some of it is being done all the year round by the school nurses, even after the welfare stations are closed.

Postnatal instruction consists of house to house visits, thrice weekly physicians conferences at two of the stations and thrice weekly instructions to classes of little mothers, and to older mothers, by the nurses.

During the season 2,008 families were visited, where there were 1,901 well babies and 373 sick babies. Eighteen babies died. The average income of families visited was \$10.96 per week; the average rent was \$3.04 per week. The average number of children per family under 14 years of age was 2.6.

For the first time this year we have discontinued the sale of milk from the Welfare Stations.

Our cases are reached principally through the use of birth records. During the year all births attended by midwives, as well as all other births in families that are not thoroughly well-to-do, are listed and these lists are furnished to the nurses at the beginning of the year. By this method, we think, we reach most of the mothers who are not financially well-to-do. Of course, in our work we are trying to reach the young, inexperienced mothers and through the classes for "little mothers" we are trying to reach the potential mother. We feel that we shall never be able to do effective work until we can do welfare work all the year round, and until we can add to it effective prenatal and postnatal supervision of all mothers and children.

GEORGE W. GOLER, *Health Officer.*

INFANT WELFARE ASSOCIATION

Syracuse

The Infant Welfare Association of Syracuse was founded as the Infant Welfare Committee affiliated with the Associated Churches and Charities in June, 1913. Two welfare stations were opened that summer conducted by a staff of six physicians, who worked without compensation, and five nurses, whose services were donated by the Bureau of Health. The stations were open ten weeks, and, although most of the work was with babies, a small start was made in prenatal work. Twelve thousand four hundred and forty quarts of milk were dispensed that summer to 473 babies, nursing mothers and fifteen expectant mothers. The total expense of running the stations was \$1,464.58.

During the summer of 1914 three stations were maintained for ten weeks. Eight physicians were, in turn, at the stations for an hour each morning, and the Board of Education gave the services of their eight school nurses. The stations were located in three of the public schools, situated in crowded districts of the city. Seven hundred and seventy-nine babies were registered, 553 remaining on the books when the stations closed. Of the 226 cases dropped from the roll the great majority were able to pay for the milk but refused to do so. Some came for advice only, others moved away, ten were sent to hospitals, eleven to the Baby Camp and eleven died. There were 97 expectant mothers, who were frequently visited, to whom advice was given and milk provided when necessary. Eighteen hundred and eighty-three visits were made by the nurses, ranging from one to eighteen visits to each

home. Thirty-three thousand eight hundred and six quarts of milk were dispensed. About fifty ice boxes were sold or given to the mothers, and many homes were supplied with mosquito netting and fly paper. Many poor families were regularly supplied with ice. "Little Mothers' Leagues" were formed in each of the stations. About 150 girls from ten to fourteen years old were members, and the nurses found especial improvement in the homes of these children.

Only well children under two years of age, nursing and expectant mothers are cared for by our organization. The Visiting Nurse Association conducts, in the summer, a Baby Camp for sick babies, and the Day Nursery cares for children of mothers at work during the day. Our sick cases are referred to the Baby Camp, hospitals or dispensary. Placing placards in different languages throughout the districts covered and signs on the buildings seems to be all that is necessary to bring the cases. Special emphasis is put on the importance of breast-feeding, but when necessary, the physician at the station prescribes a formula for milk modification for the baby, and the nurse gives individual instruction in the homes.

As our work is rather concentrated on mothers of very limited means, the visits to the homes are found to be the most effective instrument we have. This summer we found that the nurses were so rushed at the stations that, although they were closed at noon, the work was often not finished until the middle of the afternoon when the nurses were too exhausted to start out on calls. It was found necessary, therefore, to employ an assistant at each station to permit one nurse to confine her efforts entirely to visiting the homes. (I should say that as two nurses were always on vacation, each station was limited to two nurses for the work.) This summer there was no correlation of our work with that of the Bureau of Health, but we hope to turn our work over to this Bureau, to a large extent, the first of January. The Associated Churches and Charities have been of assistance to us in the investigation of cases, while the Visiting Nurse Baby Camp and our organization have referred cases to each other. We have had no appropriation from city or state but have carried on the work entirely by the help of private charity. It has cost us about \$2,450.00 to maintain the three stations this summer. Our most difficult problem has been, I think, to get the people to pay what they should for the milk. Many people were out of work and could not pay. Others would rather feed babies tea than pay for milk.

We have opened (September 8th) a new station in the Free Dispensary building, for which we employ a nurse. We hope to maintain this station until the work is taken over by the Bureau of Health. At this station no milk is dispensed for less than cost price to any one not recommended as needy by the Associated Churches and Charities. The nurse has birth registration records and lists of babies and prenatal cases from the summer stations, and during the first four weeks she has paid 135 visits to these homes. She has started, also, mothers' weekly conferences at the station.

The total population of Syracuse is about.....	154,000
The total number of births for year ending October 1, 1913....	3,053
The total number of births for year ending October 1, 1914....	3,338
The total number of deaths under 1 year of age for year ending October 1, 1913.....	464
The total number of deaths under 1 year of age for year ending October 1, 1914.....	411

The infant mortality has been reduced from 15-1/5 per cent to 12-1/3 per cent.

Syracuse is in the registration area for births.

RIHODA S. PALMER, *Secretary.*

THE BABY WELFARE COMMITTEE

Utica

The Baby Welfare Committee of Utica is the outgrowth of a committee appointed by the president of the Municipal League of Utica in May, 1912, the purpose of which was to employ a visiting nurse to work among the babies of the Italian quarter of the city during the summer months. The employment of an unattached nurse proving an ineffectual means of aiding the babies of the city, the committee early in July, 1912, determined to open a milk station and consultation clinic. The School Board having supplied the use of the domestic science room of a school in the Italian quarter, the station was opened on the 12th of July and remained until September 15th. There were enrolled 210 babies; there were made 345 visits to the clinic and 1,097 to the station; the nurse made 759 visits to the homes, and 1,296 quarts of milk were sold. There were seven deaths. The total cost of the station was \$260.57.

On July 1st, 1913, two stations were opened in school buildings, one in the Italian and the other in the Jewish quarter. Two graduate nurses were employed and the staff of physicians was increased from four to six. The stations closed on September first. The enrollment was 382. Of these 250 attended the clinics, making 514 visits and 270 that were supplied with milk received 5,335 quarts. At all times in the work every effort has been made to promote breast-feeding. The nurses made 1,604 visits to the homes of 306 babies. The total expense was \$462.44.

The work having proved so satisfactory in the two summer experiments, it was determined that the greatest efficiency could be obtained by continuing the stations throughout the year. On October 15th, 1913, through the courtesy of the Park Board, one permanent station was opened in the East Utica Bath House, and has been continued since. During the year this station has been in operation the attendance has grown steadily until the enrollment on the first of October was 501 babies under two years of age. The nurse has received 23,112 calls at the station from those desiring instruction or purchasing milk, in response to which 18,454 quarts of milk have been sold. Besides these 1,189 visits have been made to the clinic to consult the physician and the nurse has made 4,197 calls at the home. The milk is sold unmodified in quarts and pints at eight cents a quart. The nurse instructs in modification and preparation of the milk at the homes. There have been sixteen deaths, the majority among babies that attended the station but once, or not at all, having procured milk and the services of the nurse at the request of the private physician. However, including all of these on our records, a total mortality of 32 per thousand for infants under two years of age is a record in which the committee feels pride. The total cost for the year has been approximately \$1,200.00.

On July 1st, 1914, two stations were opened in addition to the permanent one. One of these in the Jewish quarter closed on September first; the other, in Faxon Hall School, in the Polish quarter, was transferred September first to the Globe Woolen Mill Boarding House at 511 Varick Street, and is now in operation. The work of these two stations, though not as extensive as in the older and better known station, is showing healthy growth. Adding the work of these two stations to that reported above, the grand total of the milk station work in Utica from October 15th, 1913, to October 1st, 1914, follows: Enrollment, 653; visits to clinic, 1,643; visits to stations, 25,774; milk sold, 20,642 quarts; home visits by nurse, 6,116; total deaths, 22. The medical staff has consisted of a medical director, three physicians in charge, and four attending physicians, with three visiting nurses.

In the fall of 1913 the committee took up prenatal work. This has been carried on by the regular milk station nurse in connection with her other duties. The nurses learning on their rounds, or through notification from friends or other philanthropic societies of expectant mothers, place them on the list of prenatal cases, visit them at least every second week during their pregnancy and instruct them in the many things a mother should know. They further see that a physician is engaged or refers the cases to the obstetric clinic of the Utica Dispensary. After the baby is born the nurses call for one month and then have it brought to the nearest milk station clinic. During the year 116 expectant mothers have been under observation and 1,089 calls made upon them.

In the spring of 1914, at the instigation of this committee, which supplied the necessary funds therefor, the Board of Education introduced the "Little Mothers' Leagues" into the schools. Four leagues were organized and in the neighborhood of two or three hundred school girls received instruction in the care of the babies. This was so successful that it is expected that several more will be organized during the coming session.

The results of these efforts are beginning to show in the infant mortality rate of the City of Utica, a city of 85,000 population. For the twelve months preceding October 1, 1912, there were born in Utica 2,075 babies, and the death rate for those under one year of age was 152 per thousand births. For the same period to October 1, 1913, there were 2,274 births with a death rate of 133. For the year just closed the birth record has risen to 2,422 while the infant death rate has fallen to 125. Utica is in the registration area and the records are considered to be approximately correct.

The most striking results appear in the summer months of July and August, the months in which this committee has redoubled its efforts. During these months in 1912, 360 babies were born and 90 died, giving the appalling death rate of 250 per thousand. During the same months in 1913, while 372 were born but 66 died, a reduction in the death rate to 177. During the past summer with three stations open, while the births had risen to 435 but 48 died, giving an infant death rate of 110 per thousand, a figure as startlingly low as that of 1912 was terrifyingly high. After making all due allowances for the mildness of the past summer, the committee feels that in aiding in the reduction of the summer infant death rate from 250 to 110 in the short period of two years it has proven that it has met the need of the city and met it well.

The Baby Welfare Committee is supported at present by private subscription entirely. It is the only organization in the city doing work of this type. As it is hoped to be able to extend the work in various directions this year the estimated budget is \$3,500.00.

T. WOOD CLARKE, M. D., *Medical Director.*

OHIO

BUREAU OF CHILD HYGIENE.

and

THE BABIES' DISPENSARY AND HOSPITAL, DIVISION OF HEALTH, PUBLIC WELFARE DEPARTMENT

Cleveland

I. The Babies' Dispensary and Hospital was organized December, 1906. The Bureau of Child Hygiene was organized July, 1911.

II. In 1909 Cleveland's Board of Health assigned its two contagious nurses for baby work during the months of July and August. In 1910 they appropriated \$1,000 towards the "baby work" and the nurses employed were under the direction of the Superintendent of Nurses of the Babies' Dispensary. In July, 1911, \$10,000 was appropriated by the City Council for "baby work" and the Bureau of Child Hygiene was organized. The two organizations cooperate very closely. The Medical Director of The Babies' Dispensary is Director of the Bureau of Child Hygiene, under the Commissioner of Health. The Superintendent of The Babies' Dispensary is Superintendent of Nurses of The Bureau of Child Hygiene.

Prenatal: Every pregnant mother who cannot afford the services of a private physician, is referred according to a definite arrangement, to one or the other of the local maternity dispensaries. These dispensaries each have a prenatal nurse who visits each mother in her home and sees that she comes to the maternity dispensaries for examination and control.

When the obstetrician discharges the mother, the baby is referred to the Prophylactic Babies' Dispensary of the district in which the child lives.

The Cleveland Congress of Mothers Clubs aid in this work by giving sewing classes to as many of these mothers as will come on definite afternoons to the Prophylactic Babies' Dispensaries. During each session group instructions in their own care and that of the future babies is developed through talks by the Bureau of Child Hygiene supervisors.

There is a committee composed of the Superintendents of Nurses of the Babies' Dispensary and the Bureau of Child Hygiene, the two Maternity Dispensaries and the Visiting Nurse Association, which has as its object that of having all public health nurses in Cleveland use uniform methods in the teaching of prenatal care.

The general condition of the babies under the control of the Bureau of Child Hygiene and the Babies' Dispensary has been much improved. We are making special efforts to insure breast-feeding.

Postnatal: The Bureau of Child Hygiene nurses give the mothers instructions in the homes, which corresponds to the instructions given by the physicians in the dispensaries. The nurses and doctors give individual instructions.

Sick babies are taken care of by the same nurses and under the direction of the Babies' Dispensary physicians when they cannot afford a private doctor, and through this dispensary they are referred to special hospitals.

The Babies' Dispensary and Hospital finances the distribution of milk to all the babies under the care of either the Bureau of Child Hygiene or the Babies' Dispensary. This milk comes from a farm which is under the direction of a physician from the Babies' Dispensary.

The Bureau of Child Hygiene has 15 prophylactic dispensaries.

III. Our work is carried on throughout the entire year.

Birth registration is not complete, hence statistics cannot be accurate, but they do show the following decrease in the mortality among infants under one year:

General death rate for the city at large, 1913—14.45 per cent.

General death rate for the city at large, 1914—12.79 per cent.

The mortality rate for babies under the care of the dispensaries, 5.83 per cent.

IV. The Babies' Dispensary has a staff of 8 doctors and 4 nurses. The Babies' Dispensary has a nurse in its Social Service Department, its Dispensary and Milk Laboratory and a Director of Educational Work, who gives each Bureau of Child Hygiene nurse three months social and medical training.

The Bureau of Child Hygiene has 4 supervisors, 26 district nurses, 3 prevention of blindness nurses, "one child per home" boarding home nurse.

V. Our city is divided into districts with one nurse and sometimes two or three nurses to one district.

The average number of babies carried by each nurse is 311. Cases are referred to us from the birth records, other dispensaries, obstetrical clinics, visiting nurse associations, etc.

Six thousand five hundred and twenty-five babies were admitted to the dispensaries in 1914. Besides this number a large number of mothers who never came to the dispensary were instructed by the nurses in their homes.

The age limit for the Babies' Dispensary, which cares only for sick babies, is three years.

The age limit for the Prophylactic Dispensaries is now six years, in order to extend prophylactic supervision to school age.

VI. Our organizations are the only ones doing preventive home visiting work for babies. The Visiting Nurse Association takes care of babies who are under the care of private physicians.

VII. The Bureau of Child Hygiene tries to reach all mothers, excepting those who can go regularly to private physicians.

VIII. We cooperate very closely with all other charitable organizations in the city.

IX. The Babies' Dispensary is supported by private philanthropy. The Bureau of Child Hygiene is supported by the city. The annual budget for the Babies' Dispensary is about \$25,000. The budget for 1914 for the Bureau of Child Hygiene will amount to \$42,000 to \$43,000.

X. Total population in Cleveland is 670,000.

Total number of births recorded for year ending October 1, 1913—13,259.

Total number of births recorded for year ending October 1, 1914—14,495.

Total number of deaths under one year for year ending October 1, 1913—1,916.

Total number of deaths under one year, for year ending October 1, 1914—1,855.

These birth registration figures are very unreliable; Cleveland does not know how many babies are born within its limits. Investigation seems to show that the figures given are about two-thirds of the total number of births.

XI. Our city is in the registration area.

XII. We feel that the teaching of mothers in the homes and of the "little mothers" in the schools are the most effective branches of our work. We cooperate very closely with the school nurses and the Domestic Science Department of the Board of Education in teaching infant hygiene in the schools. They have lectures from the Babies' Dispensary staff.

We feel that our most difficult problem is having too many babies with an insufficient number of nurses. We feel that a nurse can properly take care of one hundred babies and exert her influence towards improving home conditions and educating the mothers and advising them in such a way that there will be a permanent reduction in infant mortality.

II. J. GERSTENBERGER, M. D.,

*Director of the Bureau of Child Hygiene
and Medical Director of the Babies' Dispensary and Hospital.*

THE VISITING NURSE ASSOCIATION

Cleveland

Although this association does prenatal and maternity district work, the other baby work is all cared for by the City Department of Child Hygiene, financed under the Board of Health and supervised by the Babies' Dispensary and Hospital. The Visiting Nurse Association and the Babies' Dispensary are cooperating organizations, meeting together with other public health agencies such as the Anti-Tuberculosis League and the School Nurses, in a Joint Committee of Public Health Nursing.

MARY DUNNING THWING.

PENNSYLVANIA

REPORT OF INFANT WELFARE WORK CARRIED ON IN JOHNSTOWN DURING THE SUMMER OF 1914 BY THE ASSOCIATED CHARITIES

I. The Associated Charities entered upon active work the first day of May, 1914, and shortly afterwards began their plans for conducting a summer campaign along the lines of infant welfare.

II. The work in Johnstown was necessitated by the high death rate among children under one year of age and general bad conditions for children. The necessity of such work became very apparent after the Government made a very exhaustive investigation of the high infant mortality rate in Johnstown the previous year. Although this report had not yet become public property, enough was known of its contents to indicate that the conditions were very bad and that a decided effort was necessary in order to check the very high death rate and to improve conditions.

The newspapers cooperated splendidly and gave us excellent publicity. A fund was opened for general subscription which resulted in the raising of approximately \$1,000.00 during the summer months. Upon request of the Associated Charities a committee of doctors was appointed by the Cambria County Medical Association with Dr. Harry Cartin, a children's specialist, as chairman. Under the supervision of his committee infant welfare stations were established in the two most congested and poorest sections of the city. The families reached were largely foreign and in those sections of which the highest death rate had been recorded the past few years.

The Government survey of the milk supply of Johnstown had reported that the milk sold was very poor, partly due to the lack of proper milk inspection. To avoid this danger, special arrangements were made to secure a high grade of milk for distribution in the infant welfare stations. Agitation and publicity have had their share in securing an improvement in the dairy inspections. During the summer months 3,300 quarts of milk and 40 tons of ice were distributed. To those who were able to pay the milk was sold at the local market price. Ice was furnished free to keep the milk cool. Free milk was furnished only to those unable to pay and on the same basis as other aid given by the Associated Charities. Weekly conferences were conducted in the school houses in which each of the stations were located. These were in charge of one or more physicians of the committee assisted by other doctors who volunteered.

From the 15th of June until the 15th of September a competent welfare nurse gave full time to the work. In addition to the conference work and visiting in the homes, "Little Mothers' Classes" were organized in each district. These were well attended and proved very interesting and helpful.

During the last two weeks of July, an infant welfare exhibit was held. The exhibit of the American Association for Study and Prevention of Infant Mortality was secured for this purpose and supplemented by the state exhibit upon infant welfare. Lecturers from the State Department of Health and local people spoke at the afternoon meetings and at the evening lectures in the Opera House. In addition, moving pictures upon social topics were exhibited. The exhibit proved a decided help in forwarding the plans of the organizations and was fairly well attended. Newspaper publicity at this time was exceptionally good and very valuable.

The conference and clinical work was discontinued with the opening of the schools the first of September and the visiting work and distribution of milk shortly afterwards. This work was the first of the kind ever undertaken in the city and proved very popular. There is little chance that it will be allowed to be discontinued in the future. The educational results alone upon all classes were worth much more than the amount expended. One feature of the work was the placing

of small banks about the city for the "Save the Babies" fund. Nearly \$100.00 was collected in this way alone.

The only branch of infant welfare work carried on by our association was postnatal. A small amount of prenatal work is done by the district nurse of the Civic Club. In the postnatal work the mothers were instructed in the care of well babies by means of house-to-house visits. Weekly conferences with the doctors and nurse were held and individual instruction was given each mother. The classes for mothers were held weekly as were also the "Little Mothers'" classes.

House-to-house visits were made in the care of sick babies and arrangements were made with the hospitals for the receiving of any cases which we recommended.

A supply of milk was secured from a dairy farm which ranked highest in the government tests. The milk was from a carefully inspected herd of Holstein cattle, immediately brine-cooled and sent to the city in iced containers where it was carefully bottled, packed in ice and immediately delivered to the welfare stations where it was distributed whole and raw, for the use of babies under two years of age.

III. This work was carried on this year only during the summer months. We are in hopes of continuing it the year round in the near future.

We have the following statistics for the three months of June, July and August of infant deaths under one year of age for the past three years:

1912—June, 18; July, 47; August, 35; total, 100
1913— " 28; " 43; " 40; " 106
1914— " 13; " 29; " 38; " 80

IV. We have one nurse giving full time to the work supplemented by the services of the district nurse of the Civic Club. Three doctors give their services regularly to the work, while others assisted at different times. None of the doctors are under the employment of the Associated Charities.

V. The town is divided into two districts, one of which is much smaller than the other and requires a great deal less work. One nurse did the work in both districts. The whole work was supervised from the central office of the Associated Charities.

The average number of babies under the care of our nurse was 70 per month. The starting point of the work was the opening of infant welfare stations which immediately brought us all the work that we could handle. This was supplemented from time to time by cases reported by different physicians. Seventy-six babies were carefully registered and cared for. The age limit was two years.

VI. We are the only organization in the city engaged in baby welfare work, with the exception of the Civic Club, who employ a district nurse. This nurse gives part of her time to infant welfare work as the occasion demands, but is not primarily an infant welfare worker. We have very close cooperation with this organization as the nurse uses our office as her headquarters.

VII. We are concentrating our work upon the mothers of very limited means, most of whom are of foreign birth. Our work is not large enough to allow us to do otherwise and it is among this class that we find the worst conditions.

VIII. Our work is not correlated with that of the Department of Health, except to the extent of reporting bad sanitary or health conditions and the use of their records and statistics in our work. We have close correlation with the hospitals and place any case that we may have, in them without expense.

The one visiting or district nurse is employed by the Civic Club and does the Metropolitan Insurance nursing of the city in addition to her own work. We have very close relationship with this nurse as she has our office as her headquarters.

Our work is a branch of the Charity Organization Society of this city.

IX. Our work is supported entirely by private subscriptions. Our budget for the past year was about \$1,000.00.

X. The total population of Johnstown as estimated by the Census Report of 1912 is 60,672. The total number of births for the year ending October 1st, 1913, was 1892, for 1914, 2,195. The total number of deaths under one year for the year ending October 1st, 1913, was 285, for 1914, 268. All the above figures exclude stillbirths, of which there were 80 for the year ending October 1st, 1913, and 105 in 1914.

XI. Johnstown is in the registration area for births.

XII. We consider our most effective branch of work the individual instructions given the mothers at the weekly conferences.

On account of the fact that Johnstown is a steel town employing a great number of unskilled foreign laborers, we consider our most difficult problem of the work the overcoming of the ignorance and old-world customs of our foreign mothers. This is made more hopeful by the readiness with which the "Little Mothers" of 8 to 15 years learn the English language and catch the idea and instructions of the doctors and nurses and endeavor to put them in practice.

E. C. WARBURTON, *General Secretary.*

BABIES' HOSPITAL.

Philadelphia

The Babies' Hospital of Philadelphia is located at Wynnefield Avenue, with administrative offices and out-patient department at 600 Addison street. It was organized in June, 1911, as a summer hospital for the treatment of babies suffering from diarrheal diseases, with "follow-up" work in the homes. The second year, the hospital remained open during the entire year, being used in winter for out-door treatment of malnutrition and pneumonia. The third year, the work was greatly enlarged at the hospital, and an out-patient department for prevention and treatment of diseases of infancy, was opened in a congested district of the city, with a milk station in connection. During the fourth year, prenatal clinics were established in addition to above; also classes and lectures for mothers and fathers.

Branches:

1. Hospital

2. Out-patient department
 - Prophylaxis and treatment
 - Milk station
 - Prenatal clinics
 - Prenatal clinics
 - Classes for parents
3. Visiting nurses and social service workers for hospital and out-patient department.
4. Summer convalescent service, in cooperation with Presbyterian Hospital.

The prenatal work was established, in connection with Phipp's Institute, in July, 1914. Cases are obtained through various maternity hospitals and dispensaries. Every possible effort is being made to insure breast-feeding, but the department has been too recently established to furnish statistics as to definite results.

Postnatal: In the case of well babies, mothers are instructed by means of monthly house-to-house visits, by individual instructions by doctor and nurse at dispensary, and by means of mothers' classes.

The sick babies are visited in their homes as frequently as is necessary to insure the proper carrying out of the doctor's instructions, and are referred to hospitals if home care is impossible.

All babies are followed until they have reached the age of six years.

Whole milk is furnished at a nominal price, and mothers are taught to modify it in their homes.

In the hospital a staff of from six to thirty nurses and one to three resident physicians is employed. The average number of babies under the care of each nurse is three. Cases are brought from medical dispensaries, obstetrical clinics, visiting nurse associations, social service workers, children's aid societies and physicians, covering the entire city. About 600 mothers are reached during the year, and about 700 babies. The age limit is three years, and all children are followed until six years old.

There are eighty organizations engaged in baby welfare work in Philadelphia, with all of whom the Babies' Hospital cooperates whenever possible.

The work is supported by voluntary contributions, with no city or state aid. The annual budget is \$26,900, and only families of very limited means are treated. The most effective branch of the work is the hospital with visiting nurse service.

The City of Philadelphia is in the registration area for births. The population is 1,500,000.

RENA P. FOX, R. N., *Superintendent.*

BABIES' WELFARE ASSOCIATION

Philadelphia

The projectors of the Babies' Welfare Association found many organizations aiming at similar ends, and all directing their attention more or less to questions involving the reduction of infant mortality. They were all doing great good, but few were within signal distance of each other, or informed of the equipment or personnel of their co-workers in the same field. A child with measles was recommended to the Municipal Hospital, only to find on arriving there that Blockley was the proper place for that disease. One hospital was overcrowded--another

had room to spare. More important than all was the necessity that the many capable workers, each doing creditable work, should standardize their efforts and be able to gain that mutual support which comes from the contact of shoulder to shoulder.

With these objects in view the organization of the Babies' Welfare Association was effected March 30, 1914, at a meeting of representatives of eighty-four institutions and agencies interested either directly or indirectly in babies. The work of the organization is conducted by an executive committee, composed of a chairman, a secretary, and the ten chairmen of the sub-committees. It was outlined in the first Bulletin issued by the Association. The Association, through the courtesy of the Health Department, now has an active office in Room 714, City Hall, which is occupied by an executive secretary and a stenographer.

We believe we can say that the following work has been accomplished:

1. A cordial cooperation has been established between our Association and all municipal departments. This is an essential basis for effective administration in this field. It would be invidious to refer in detail to the aid we have thus received, but we cannot refrain from expressly acknowledging our debt to the little band of city nurses through whose help we have been able to respond to many calls for assistance.

2. We have in answer to individual calls, handled a large number of cases, in many instances saving life by promptly sending to the proper places cases requiring immediate attention. We have not in our work endeavored merely to multiply cases or fill up card indexes, but have striven to measure our usefulness by the good accomplished rather than by tabulated statements alone.

3. The attempt to cordially amalgamate the various interests and increase their cooperative effect has been entirely successful. For example, the various children's hospitals have kept us informed as to beds which are vacant and promptly told us whether they could accommodate urgent cases. During the summer the recreation piers also were in close touch with us. The purpose of the Central Office is not to dictate the treatment of the individual case—that is done by the agency to which it has been referred—but it is the desire of the office to suggest the exact hospital, agency or institution best fitted to handle that particular case. When the connection has been established between the social service worker, physician or poor mother and the agency which can give the desired assistance, the Central Office has fulfilled its function as clearing house. In the decision made by the office, however, not only is a knowledge of the related agencies essential, but also a thorough understanding of the case in question. In some instances all that is needed is that the advice already given, should be followed. An example of this is the case of a woman who, not long ago, wanted to take her child from one of the leading children's hospitals because a two days' stay showed no improvement. Instead of giving her the advice she desired, i. e., suggest her taking the baby out of the hospital—the Central Office upheld the judgment of the hospital. The woman left the office convinced that her child was not being abused and in a week's time returned to say her baby was greatly improved. The Central Office must also be able to discriminate between that which is real need and that which is affected. Not for one instant can the fact be lost sight of that each case which comes to the Central Office is that of the individual to whom his problem, for the time being at least, is the greatest in the world. Even if the office has had two or three cases that day

very similar in nature—they are different because the individuals are different.

4. As a means to these ends, and as a stimulus to further interest and study, we have issued our weekly Bulletin. Their limitations do not permit them to be exhaustive, but they are intended to lead to further inquiry and to the exchange of pertinent information.

Every such work naturally to some extent cuts its own channel and passes its preconceived bounds. The initial thought has been stated. The cooperation among the many workers has developed concrete problems and brought to their solution a renewed enthusiasm and a determination to achieve results. Many individual efforts which were languishing have been revived and workers who felt that they were alone in the field have now attacked their work again with cheerfulness and energy.

GERTRUDE B. RHODES, *Executive Secretary.*

THE CHILD FEDERATION OF PHILADELPHIA

Outline Regarding Purpose, Organization and Activities from October 1st, 1913, to October 1st, 1914

1. Purpose:

A. Research concerning conditions affecting the lives of children in Philadelphia.

B. To obtain the cooperation of existing agencies in carrying out constructive suggestions based on the results of studies made by the Federation.

C. Failing to find such existing agencies, to put into effect such constructive suggestions.

2. Organization:

The Federation was incorporated on the 29th day of September, 1913. Its organization is as follows:

President, vice-president, treasurer, secretary, managing director and board of directors.

A membership composed of men and women who have shown ability one way or another in lines of activity which can be used for the benefit of children.

An office staff, a special medical, nursing and investigating staff, as occasion demands.

The organization is financed by private subscriptions.

3. Activities for year ending October 1, 1914:

1. The Baby Improvement Contest: This contest was based on the physical improvement of the baby entered, plus the sanitary improvement of the baby's home during a period of four weeks. Six hundred babies were entered.

2. The conducting of 20 Little Mothers' Leagues in as many public schools in congested districts in the city, and the establishment of a course of instruction on this subject as a regular part of the domestic science course in the elementary schools of the city of Philadelphia. The Federation to conduct a normal class of instruction for the teachers of this course. It is estimated that between ten and fourteen thousand girls will receive this instruction as a regular part of their work during the year 1914-15.

3. Management of Philadelphia's first Municipal Christmas Tree for children.

4. The organization of the Philadelphia Babies' Welfare Association, which now has a membership of ninety-six different hospitals, institutions and agencies.

5. The conducting of a neighborhood baby-saving show, which during the past year has been visited by 374,392 people. This show is on a self-supporting basis and is financed by the neighborhood in which it is placed.

6. A survey of the Day Nurseries in the City of Philadelphia—the survey covering:

- A. Sanitary conditions of building and surroundings.
- B. Operation.
- C. Supervision and administration.
- D. Financial support.

7. The establishment and maintenance of a Health Centre. This centre has a staff of three nurses, three physicians, interpreters, clerical force, etc. It occupies a new three-story building in the Italian section of Philadelphia.

The work of the Health Centre is as follows:

The examination of babies and instruction of mothers regarding the feeding and care of babies.

Supervision of housing conditions.

Organization of little mothers' leagues.

Sanitary clubs among boys.

Supervision of handling of milk and food products.

Unofficial supervision of midwives.

Unofficial supervision of foster mothers and foundlings.

Examination of children between 2 and 6 years of age.

Procuring occupation for fathers.

Acting as intermediary between neighborhood and city departments.

Prenatal lectures, and examinations, followed by home instruction.

8. Intensive study concerning infant mortality in one square in congested part of the city. This study was followed by a complete survey of conditions affecting the lives of children in this square, and was carried on with the cooperation of 16 other agencies interested in the children of the square.

Object of the study was to show that infant mortality during the hot months could be practically eliminated by the wise expenditure of money and intelligent work. The report of this study is not as yet available as the study was not completed until October 15th.

Infant mortality rate in the square selected for the four months while the study was being made was zero.

WORK CONTEMPLATED AND UNDER WAY

1. A public bulletin service in courts and alleys in congested districts. Three hundred heavy iron frames will be placed in these districts and a continuous health bulletin will be posted in these frames at intervals during the year.

2. The establishment of an economical layette. This layette will be distributed through cooperation with shops and public and private social agencies.

3. Conducting of column in one or more newspapers in which advice to mothers will be given by physicians connected with the Federation.

4. Continuance of volunteer Little Mothers' Leagues and teaching of normal class for public school teachers.

5. Continuance of Health Centre.

6. Acting as collecting agency for war orphans of Europe.

7. Studies of private maternity hospitals, baby farms, etc., in conjunction with the Bureau of Health.

8. Assisting in the organization and operation of a Division of Child Hygiene in the Bureau of Health.

The section immediately preceding merely covers plans which are in operation now or will immediately be put into effect by the Federation.

ALBERT CROSS, *Managing Director.*

VISITING NURSE ASSOCIATION

York

Population of York.....	50,000
Staff of Visiting Nurse Association.....	3 nurses
Budget	\$3,000

INFANT MORTALITY DECREASE

1913— 98 babies cared for.....	9 deaths
1914—123 " " "	1 "

To ascertain the percentage of the sick infants of the city under their care, the nurses made in July a house-to-house canvass of the poor sections of the city and found only one unreported sick baby.

Thirty mothers applied to the nurses for prenatal care and advice.

Ninety per cent of the 123 mothers nursed their babies.

Twenty-eight baby clinics were held at the Visiting Nurse's House.

During the summer talks were given to the mothers by local physicians on

Prenatal care	Common infant diseases
Summer care of infants	Feeding of infants
Hygiene of the home.	

There were 303 entries in the July Baby Contest.

We consider the nurses' visits to the homes the most important feature of our work. The nurses give instruction in ventilation, food values, cooking, hygiene and care, feeding, bathing and clothing of the baby—showing the mother how to make the best possible use of available materials and implements.

CATHERINE SCHMIDT.

RHODE ISLAND**BABY WELFARE COMMITTEE****Providence**

Organized in 1914. Made up of representatives from the following organizations: Health Department, District Nursing Association, Providence Branch, Congress of Mothers, Council of Jewish Women, Immigration Educational Bureau, Federal Hill Association, and physicians in charge of the baby welfare stations and their substitutes.

The committee is now running five baby welfare stations. Weekly attendance, twenty to thirty in some; five to ten in others.

Committee meets monthly to discuss station problems, statistics, etc. Committee has prepared a history card and weight card. Dr. Burnett is Chairman of the Committee; Dr. Ellen A. Stone, Vice-Chairman.

HENRY E. UTTER, M. D., *Secretary*.

DISTRICT NURSING ASSOCIATION**Providence**

The Providence District Nursing Association was organized in 1900 and since then has grown and developed very rapidly. The staff now consists of thirty-five nurses, twenty-three of whom are general visiting nurses, four tuberculosis nurses, six baby welfare nurses, a superintendent and assistant superintendent, all supported and supervised by the Providence District Nursing Association.

The baby welfare work started 1907 with one nurse. Baby camps were carried on for three years during summer months.

At present, we have six nurses whose entire time is devoted to home visiting, teaching care of children, milk modification, with a few hours each week spent at consultations for well babies. The latter is supported by other organizations. Our baby welfare work is carried on all the year round.

Our prenatal work, which we started last June, is done by baby welfare nurses. The cases are received largely from the Lying-In Hospital, of applicants seeking admission to the hospital. The cases are under the care of the nurse from two to seven months.

We are putting forth our best efforts to insure breast-feeding and are being most successful.

After birth, the nurses visit on an average of every week or ten days.

Pamphlets in various languages are printed through the courtesy of the Health Department, from whom we receive the strongest kind of cooperation, and are distributed by the baby welfare nurses and explained to the mothers.

Providence is in the registration area for births.

The nurse has weekly conferences with the mothers and doctor at the well baby consultations, of which we have six in Providence. Special classes for mothers are not held. The care of sick babies is given over to the general visiting nurse.

We have not a special babies hospital in Providence. Sick babies that cannot be cared for at home are sent to the infant ward of the Rhode Island Hospital.

Nothing has been done in Providence regarding the distribution of milk. Whole milk is purchased from a dealer recommended by the nurse or doctor. Modification is taught by the nurse in the home.

We have our city divided into five districts with a nurse in charge of each district, one nurse acting as supervisor. Each nurse cares, on an average, for about 170 babies.

The cases are referred by physicians, lying-in hospitals, Rhode Island Hospital, medical dispensaries, organized charities and the public at large.

Our work the past year has been more satisfactory than in former years, due to the fact that more people are getting interested in the saving of babies, and do not wait until the baby is beyond all help before calling the nurse or physician.

We care for and supervise all children from birth to school age, when they come under the care and supervision of the school nurse of which we have six.

The total number of cases we cared for from October 1, 1913, to October 1, 1914, was 2,434.

Our organization is the only one in this city that is engaged in baby welfare work.

We accept calls from every one. In the beginning, most of our time was spent among the mothers of the poorer section of the city, but for the past two years, we have been called upon for advice and help by a number of mothers who are comfortably situated financially, and who are willing to pay for such advice. They are almost always most appreciative and the results obtained are very gratifying.

Our baby welfare work thus far has been supported by voluntary contributions. Our annual budget for the year ending August 31, 1914, was about \$33,000.00, the cost of baby welfare work being about \$6,500.00.

We have been much encouraged during the past year by the willingness of a number of mothers receiving advice and assistance from the baby nurses to make payment for the advice and instruction. The amount collected for the year was about \$53.00.

Our work is supported by private charity and we have no appropriation from the city or state.

The total population of Providence in 1913—242,682.

The total population of Providence in 1914—247,682.

The total number of births for 1911-1912—5,750.

The total number of births for 1912-1913—5,905.

The total number of deaths under one year of age for 1911-1912—3,655.

The total number of deaths under one year of age for 1912-1913—3,620.

(The statistics for births and deaths for 1914 are not completed.)

We feel strongly that home visiting is the most effective part of our work. An interested nurse can do more with a mother at home, than anyone else. If one lets up on the home visiting, everything else falls flat.

Our greatest difficulty is lack of intelligent instructions from some physicians in the care of sick babies. No matter what nurse or mother is, no matter how grateful they are, if the doctor does not give proper advice nothing can be done.

MARY S. GARDNER, *Director.*

WISCONSIN**DIVISION OF CHILD WELFARE, DEPARTMENT OF HEALTH****Milwaukee**

I. Ordinance creating Division of Child Welfare was passed June 17, 1912.

II. At first part of the city was under supervision; now the entire city. The department now has four baby stations permanently established and during the summer, three fresh air camps.

III. Work is carried on all the year round. Death rate decreased 31 per cent in the districts. Work includes conferences twice weekly at the baby stations; instruction of mothers, home care of sick babies.

IV. Staff: Fourteen nurses and eight doctors.

V. City is districted and work is supervised from central office. Cases found through birth records and canvass of districts. The average number of babies under the care of each nurse is 150. About 3,500 children are reached each year; the age limit is one year.

VI. Weekly conferences are held with the following, all of which are carrying on some branch of baby-saving work: The Children's Free Hospital, Infants Home and Hospital, County Hospital, Home for Dependent Children, Wisconsin Home Finding Society, Maternity Hospital.

IX. Our work is financed by the city. Annual budget, \$23,500.

X. Total population of Milwaukee, 390,00 (estimated). Total births for year ending December 31, 1913, 11,270.

XII. We consider the weekly conferences with the mothers the most effective branch of our work.

E. T. LOBEDAN, M. D., *Chief, Division of Child Welfare.*

INFANTS' HOME AND HOSPITAL**Milwaukee**

I. The Milwaukee Infants' Home and Hospital organized 1882. It has confined its work to infant feeding and hygiene.

II. The welfare work at present carried on consists of hospital care and social care following discharge of patients.

Prenatal work is about to be established. Special efforts are being made to insure breast-feeding.

In postnatal work mothers are instructed in the care of well babies by house visits by social nurses, conference, dispensary and classes for mothers held weekly at hospital.

Sick babies are cared for at the house through house visits and reference to special hospitals. No distribution of milk.

III. The work is carried on all year.

IV. The staff is composed of seven physicians, two graduate nurses, one graduate welfare nurse, supplied by the city, who is receiving three months' post-graduate instruction, training school for nursery maids in which are twelve pupils.

V. The starting point for work is through city nursing organizations, physicians, dispensary and other hospitals. One hundred and ten babies are cared for on an average each year.

For the year ending October 1, 1914, 113 babies were cared for, an increase over preceding years. Limit of age is two years.

VII. Work especially among mothers of limited means, but inexperienced mothers more favorably situated financially are constantly advised.

VIII. We work in cooperation with the Department of Health, hospitals and charitable organizations.

IX. Supported by private charity. No city or state appropriation. The average amount of annual budget is \$7,500.00.

XII. Most effective branch is feeding of infants. Our greatest need is lack of hospital beds.

NAN DINNEEN, *Superintendent.*

MATERNITY HOSPITAL AND DISPENSARY

Milwaukee

Organized 1906. Incorporated 1907.

This charity offers:

To send physicians and nurses to attend poor women in childbirth, in their own homes;

Accommodation in the hospital for worthy women who cannot be cared for in their own homes;

Medical and surgical aid in diseases peculiar to women, in the hospital or dispensary, and at the homes of patients;

Instruction of students and practitioners of medicine in practical midwifery and gynecology;

Instruction of mothers in the care and feeding of infants.

Object: Better mothers; better babies.

MRS. G. A. HIPKE, *President.*

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

CONSTITUTION

ARTICLE I—Name

The name of this Society shall be THE AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY.

ARTICLE II—Objects

The objects of the Association shall be: (a) The study of infant mortality in all its relations; (b) the dissemination of knowledge concerning the causes and prevention of infant mortality; (c) the encouragement of methods for the prevention of infant mortality.

ARTICLE III—Meetings

The meetings shall be held at such times and in such places as may be directed under the By-Laws.

BY-LAWS

ARTICLE I—Membership

This Association shall consist of six classes of members: (a) Active Members; (b) Life Members; (c) Sustaining Members; (d) Contributing Members; (e) Honorary Members; (f) Affiliated Organizations.

(a) Those persons subscribing to the invitations for members at the Conference called by the American Academy of Medicine at New Haven, November 11-12, 1909, and such persons as shall from time to time express a desire to become identified with the Association may become members so long as they comply with the provisions of the By-Laws. The dues of Active Members shall be Three Dollars (\$3.00) a year.

(b) Persons may become Life Members upon the payment of Two Hundred Dollars (\$200).

(c) Persons may become Sustaining Members on the payment of Twenty-five Dollars (\$25) a year.

(d) Persons may become Contributing Members upon the payment of Ten Dollars (\$10) a year.

(e) Persons distinguished for eminent services in the study or prevention of infant mortality may be elected Honorary Members.

(f) Organizations pursuing objects in harmony with the objects of this Association may become Affiliated Members according to the terms set forth in Article X.

ARTICLE II—Board of Directors

SECTION 1. The Association shall, at its first meeting, elect a board of thirty directors, divided into five groups of six each, to serve one, two, three, four and five years, the duration of office to be determined by lot.

The Board of Directors may hereafter, at the annual meeting or at a special meeting of the Association, be increased in multiples of five to at most one hundred, the additional members to be assigned to groups in accordance with the provisions of the preceding paragraph of this section. At least one-third of the total membership of the Board shall consist of persons not engaged in the practice of medicine. The election of new Directors who fail to qualify as members within three months after notification of election shall be declared void.

SEC. 2. The Board of Directors shall make its own rules; the government of the Association, the planning of work, the disbursing of moneys, the arrangements for meetings and congresses, and all other matters pertaining to legislation and direction shall be in its hands; committees shall have the power to execute only what is directed by the Board.

ARTICLE III—Election of Officers

The Board of Directors shall annually elect from its own number a President, two Vice-Presidents, a Secretary and a Treasurer, who shall be officers of the Association, as well as of the Board. The President-elect shall be installed at the annual meeting following that at which he was elected.

The Board of Directors shall, at its first meeting, elect also a President to serve for the immediate year.

ARTICLE IV—Committees

SECTION 1. The Board of Directors shall appoint an Executive Committee, consisting of nine of its members, of whom the President, the President-elect and Secretary shall be members ex-officio. At least one of the other members shall be chosen to represent the city at which the next annual meeting is to be held.

SEC. 2. The President with the approval of the Executive Committee, shall appoint such committees and representatives as may be necessary for scientific and educational work. He shall appoint at the organization meeting of the Executive Committee the Chairmen of Committees responsible for the Section work at the following annual meeting.

SEC. 3. The Executive Committee shall have entire charge of the program and shall complete the same with the aid of the President and Chairmen of the various sections at least three months before the annual meeting.

ARTICLE V—Quorum

Seven directors shall constitute a quorum of the Board.

ARTICLE VI—Meetings

There shall be at least one stated meeting of the Association, at a time and place to be fixed by the Board of Directors. Other meetings of the Association may be called by the Board of Directors at such times as it shall deem proper. The Board of Directors shall hold a stated meeting once a year during the Annual Meeting of the Associa-

tion. Other meetings of the Board of Directors may be called by the President, at the request in writing of seven Directors. The Executive Committee shall hold a meeting not later than the day following the Annual Meeting of the Board of Directors at which the officers of the ensuing year are elected. At this organization meeting of the Executive Committee, the newly elected President shall preside and assume his duties for the ensuing year. The Executive Committee shall also hold stated meetings during the months of January and May or June. Other meetings of the Executive Committee may be called by the President at any time or at the request in writing of two members of the Committee.

ARTICLE VII—Moneys

The moneys received from membership dues and from all other sources shall be used for defraying the expenses of the Association, and for furthering the objects under the direction of the Board of Directors.

ARTICLE VIII—Amendment of Constitution

Propositions to amend the Constitution may be presented in writing at any meeting of the Board of Directors or of the Association; they shall be then referred to the Board of Directors for consideration and report. The Board of Directors shall report all propositions for amendment, whether submitted to it originally or by reference, at the meeting of the Association next following, when action may be taken; *provided, however*, that no proposition for amendment shall be voted upon within thirty days after its presentation, or without at least twenty days' notice of the meeting at which it is to come up for consideration, which notice shall set forth the proposed amendment in full. An affirmative vote of two-thirds the members present shall be required for adoption.

ARTICLE IX—Amendment of By-Laws

By-Laws may be amended in the same manner as the Constitution, or by a two-thirds vote of the members present at a meeting of the Board of Directors, provided that twenty days' notice in writing has been given of the proposed amendment in the call for the meeting.

ARTICLE X—Affiliated Organizations

Affiliated organizations shall pay annual dues of Five Dollars (\$5) each, entitling one official representative of each to the status of an individual member, except eligibility to elective offices.

The duty of an Official Representative of an Affiliated Organization shall be to promote cooperation in the study and prevention of infant mortality between his own and this Association, presenting to each a brief written report for this purpose.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

MEMBERSHIP LIST 1914

France

Honorary

Bertillon, Dr. Jacques.....Paris

GENERAL MEMBERSHIP

LIFE MEMBERS

Ford, Miss Stella D., Detroit, Michigan
Gitchell, Miss Katherine, Akron, Ohio
Hanna, Mr. and Mrs. H. M., Cleveland, Ohio
Holt, Dr. L. Emmett, New York City
Knox, Mrs. J. H. Mason, Jr., Baltimore, Md.
Knox, Miss Katherine Bowdoin, Baltimore, Md.
Knox, J. H. Mason, 3rd, Baltimore, Md.
Mellon, Mr. A. W., Pittsburgh, Pa.
Oliver, Mr. Wm. B., Baltimore, Md.
Shevlin, Mrs. Thomas, Minneapolis, Minn.
Volker, Mr. Wm., Kansas City, Mo.
Wade, Mr. and Mrs. J. H., Cleveland, Ohio
White, Mr. R. J., Baltimore, Md.

AFFILIATED SOCIETIES

Associated Charities of Greater Johnstown, Johnstown, Pa.
Avon Home, Cambridge, Mass.
Babies' Dairy Association, New York City
Babies' Dispensary Guild, Hamilton, Ontario, Canada
Babies' Dispensary and Hospital, Cleveland, Ohio
Babies' Hospital, New York City
Babies' Hospital, Newark, N. J.
Babies' Hospital Milk Dispensary, Newark, N. J.
Babies' Milk Dispensary, Buffalo, N. Y.
Babies' Milk Fund Association, Detroit, Michigan
Babies' Milk Fund Association, Louisville, Kentucky
Babies' Welfare Association, Philadelphia, Pa.
Baby Feeding Association, Springfield, Mass.
Baby's Milk Fund Association, Lexington, Kentucky
Baby Welfare Association, St. Joseph, Mo.
Baby Welfare Association, St. Paul, Minn.
Baby Welfare Committee, of Utica, N. Y.
Baby Welfare Section of Civic Club of Cumberland, Md.
Baltimore Association of Jewish Women, Baltimore, Md.
Berlin Mills Company's District Nurse, Berlin, N. H.
Bureau of Charities District Nursing Committee, Brooklyn, N. Y.
Bureau of Municipal Research, New York City
Camp Fire Girls, New York City
Certified Milk and Baby Hygiene Committee, California Association of Collegiate
Alumnac, San Francisco, Cal.
Child Federation, Philadelphia, Pa.
Child Welfare Association, New Orleans, La.
Child Welfare Association, Niagara Falls, N. Y.
Child Welfare Committee of the Red Cross, Burlington, Iowa
Childrens' Aid Association, Indianapolis, Ind.
Childrens' Aid Society, Brooklyn, N. Y.
Childrens' Aid Society of Pennsylvania, Philadelphia
Childrens' Free Dispensary and Hospital Association, South Bend, Indiana

Childrens' Friend Society, Boston, Mass.
 Childrens' Welfare Division of Bellevue Hospital Social Service Department,
 New York City
 Christian Service League of America, Wichita, Kansas
 Clinic for Infant Feeding of the D. A. Blodgett Home, Grand Rapids, Michigan
 Committee on Infant Social Service of the Women's Municipal League, Boston
 Connecticut Children's Aid Society, Hartford, Conn.
 Council, Milk and Ice Fund, Baltimore, Md.
 Day Nursery and Free Kindergarten Association, Cleveland, Ohio
 Diet Kitchen of the Oranges, Orange, N. J.
 Floating Hospital, Boston, Mass.
 Free Public Library, East Orange, N. J.
 Hebrew Infant Asylum, New York City
 Home for the Friendless and Foundlings, Cincinnati, Ohio
 Houston Settlement Association, Houston, Texas
 Infant Aid Association, Manchester, N. H.
 Infants' Home, Erie, Pa.
 Infants' Home and Hospital, Milwaukee, Wis.
 Infant Hygiene Association, Holyoke, Mass.
 Infant Welfare Association, New Haven, Conn.
 Infant Welfare Committee, Syracuse, N. Y.
 Infant Welfare Department, Duluth Consistory Scottish Rite Masons, Duluth,
 Minn.
 Infant Welfare Society of Chicago, Ill.
 Infant Welfare Society, Jacksonville, Florida
 Infant Welfare Society of Minneapolis, Minn.
 Infant Welfare Station, La Salle, Illinois (Emma Matthei-Chancellor
 Memorial)
 Ladies' Literary Club of Salt Lake City, Utah
 Liga Nacional Filipina para la Proteccion de la Primera Infancia, Manila, P. I.
 Maryland Association for Study and Prevention of Infant Mortality (Babies'
 Milk Fund Association) Baltimore
 Maryland Society for the Prevention of Blindness, Baltimore
 Massachusetts Babies' Hospital, Boston
 Massachusetts Milk Consumers' Association, Boston
 Maverick Dispensary, Boston, Mass.
 Metropolitan Life Insurance Company, Industrial Department, New York City
 Milk and Baby Hygiene Association, Boston, Mass.
 Milwaukee Maternity Hospital and Free Dispensary Association
 Minnesota Public Health Association, St. Paul
 Mothers' Aid of the Chicago Lying-in Hospital and Dispensary
 Mothers' Club, Providence, R. I.
 New Jersey Congress of Mothers, Moorestown
 New Orleans Pure Milk Society
 New York Committee for the Prevention of Blindness, New York City
 New York Diet Kitchen Association, New York City
 New York Maternity Polyclinic, New York City
 New York Milk Committee, New York City
 Pediatric Society, Brooklyn, N. Y.
 Pediatric Society, Philadelphia, Pa.
 Public Library, Providence, R. I.
 Race Betterment Conference, Battle Creek, Michigan
 St. Louis Children's Hospital
 St. Margaret's House and Hospital, Albany, N. Y.
 St. Vincent's Nursery and Babies' Hospital, Montclair, N. J.
 Social Welfare Association, Grand Rapids, Mich.
 Society for the Prevention of Cruelty to Children, Brooklyn, N. Y.
 Society for Helping Destitute Mothers and Infants, Boston, Mass.
 Sub-Committee on Mothers and Infants, New York State Charities Aid Associa-
 tion, New York City
 Unity Lend-a-Hand Society, Lexington, Mass.
 Utah Congress of Mothers, Salt Lake City
 Woman's Club, Chicago, Illinois
 Woman's Club, Decatur, Illinois
 Alumnae Association Battle Creek Sanitarium Training School for Nurses
 American Nurses' Association, New York City
 Columbia and Children's Alumnae Association, Washington, D. C.
 Columbus (Ohio) District Nursing Association
 Farrand Training School Alumnae Association, Detroit, Michigan
 Georgia State Association of Graduate Nurses
 Graduate Nurses' Association of the District of Columbia, Washington
 Instructive District Nursing Association, Boston, Mass.
 Instructive Visiting Nurse Society, Washington, D. C.

Iowa State Association of Graduate Nurses, Sioux City
 Kentucky State Association of Graduate Nurses, Louisville
 Maryland State Association of Graduate Nurses
 Missouri State Nurses' Association
 National League of Nursing Education
 Nebraska State Association of Graduate Nurses
 New York State Nurses' Association
 Ohio State Association of Graduate Nurses
 Providence District Nursing Association, Providence, R. I.
 Visiting Nurse Association, Cincinnati, Ohio
 Visiting Nurse Association, Cleveland, Ohio
 Visiting Nurse Association, Detroit, Michigan
 Visiting Nurse Association, Elizabeth, N. J.
 Visiting Nurse Association, Waterbury, Conn.
 Visiting Nurse Association, York, Pa.
 Board of Health, Cleveland, Ohio
 Board of Health, Richmond, Va.
 Bureau of Health, Rochester, N. Y.
 Division of Child Hygiene, Department of Health, Milwaukee, Wis.
 Health Department, Baltimore, Md.
 State Board of Health, Jacksonville, Florida
 State Board of Health, Raleigh, N. C.

GENERAL MEMBERSHIP

Argentine Republic

Vidal, Dr. Antonio.....2180 Street Juncal, Buenos Aires

China

Hume, Dr. Edward H.....Changsha
 Magee, Mr. John G.....Nanking

England

Broadbent, Hon. Benjamin...Gatesgarth, Lindley, Huddersfield
 Lane-Clayton, Dr. Janet.....18 Craven Terrace, Lancaster Gate, W.
 London
 Perkins, Dr. J. H.....The Hydro, College Green, Bristol

Scotland

Boyd, Mr. T. Hunter.....70 Bothwell St., Glasgow

New Zealand

Campbell, Miss Annie D.....Karitane-Harris Hospital, Anderson's
 Bay, Dunedin
 Jenkins, Mr. William.....850 Cumberland St., Dunedin

Canada

Babies' Dispensary Guild (Affil.)...12 Euclid Ave., Hamilton, Ontario
 Blackader, Dr. A. D.....236 Mountain St., Montreal
 Brown, Dr. Alan.....440 Avenue Road, Toronto
 Campbell, Dr. George A.....459 Avenue Road, Toronto
 McCullough, Dr. John W.....Secretary Provincial Board of Health,
 Toronto, Canada
 MacMurphy, Dr. Helen.....133 East Bloor St., Toronto
 Mackay, Miss Mary A.....1414 Seventh Ave., South, Lethbridge,
 Alberta
 Mackenzie, Miss Mary A.....578 Somerset St., Ottawa
 Moody, Dr. A. W.....480½ Main St., Winnipeg, Manitoba
 Patterson, Miss Mary D., R. N.....City Hall, Calgary, Alberta
 Pelletier, Dr. Elzear.....Secretary Board of Health, Province of
 Quebec, Montreal
 Wilson, Miss Frederica.....Lady Superintendent Winnipeg General
 Hospital Training Schools for Nurses,
 Manitoba
 Woodhouse, Dr. Robert Elmer.....Provincial Board of Health, Fort Wil-
 liam, Ontario

Hawaii

Pratt, Dr. John S. B.....P. O. Box 686, Honolulu

Panama

Brakemeier, Miss Louise.....Hospital Santo Tomas, Panama City,
Ancon

Philippine Islands

Liga Nacional Filipina para la Pro-
teccion de la Primera Infancia (A.M.I.)...423 San Pedro, Quiapo, Manila
Pond, Dr. Eleanor J.....The Mary Johnston Hospital, Manila

Alabama

Huggins, Mrs. Augusta.....Talladega
Phelan, Miss Sarah E.....1336 Fourteenth Ave., N., Birmingham

California

Ainley, Dr. Frank C.....1118 Brockman Bldg., Los Angeles
Ash, Dr. Rachel L.....Galen Bldg., San Francisco
Brown, Dr. Adelaide.....240 Stockton St., San Francisco
Certified Milk and Baby Hygiene
Committee Association of Collegiate
Alumnae (A.M.I.).....San Francisco
Fleischner, Dr. E. C.....350 Post St., San Francisco
Franklin, Miss H. Grace.....521 S. Figueroa St., Los Angeles
Goethe, Mr. C. M.....Inverness Bldg., Sacramento
Graupner, Mrs. A. E.....2009 Jackson St., San Francisco
Gray, Mrs. R. S.....Commonwealth Club, San Francisco
Haynes, Dr. John Randolph.....429 Consolidated Realty Bldg., Los
Angeles
Johnson, Dr. P. V. K.....820 Security Bldg., Los Angeles
King, Dr. Charles Lee.....70 S. Euclid Ave., Pasadena
Lucas, Dr. Wm. Palmer.....University of California Hospital, San
Francisco
McBride, Dr. J. H.....489 Bellefontaine St., Pasadena
McDuffie, Mrs. Duncan.....156 The Tunnel Road, Berkeley
McIntosh, Mrs. C. K.....Redwood City
Moffitt, Dr. Herbert C.....240 Stockton St., San Francisco
Porter, Dr. R. Langley.....San Francisco
Powell, Dr. Thomas.....318 West Third St., Los Angeles
Powers, Dr. L. M.....Commissioner of Health, Los Angeles
Slemons, Dr. J. Morris.....3404 Clay St., San Francisco
Tevis, Mrs. Wm. S.....Box 747, Bakersfield
Thum, Mr. William.....Pasadena
Willitts, Dr. Emma K.....Galen Bldg., San Francisco

Colorado

Amesse, Dr. J. W.....452 Metropolitan Bldg., Denver
Gengenbach, Dr. Frank P.....1434 Glonarm Place, Denver
Ramaley, Mr. Francis.....University of Colorado, Boulder
Titworth, Mr. Frederick S.....Equitable Bldg., Denver
Whitney, Dr. H. B.....320 Temple St., Denver

Connecticut

Anderson, Dr. H. G.....Waterbury
Bartlett, Mrs. C. J.....209 York St., New Haven
Bennett, Mrs. Winchester.....76 Everit St., New Haven
Bronsky, Miss Mary W. B.....85 Congress Ave., Waterbury
Bronson, Miss Margaret L.....1193 Chapel St., New Haven
Carle, Mr. Robert W.....P. O. Drawer D., New Haven
Carmalt, Dr. W. H.....261 St. Ronan St., New Haven

Connecticut Children's Aid Society (Affil.)	60 Brown-Thomson Bldg., Hartford
Fisher, Prof. and Mrs. Irving	460 Prospect St., New Haven
Goodenough, Dr. E. W.	44 Leavenworth St., Waterbury
Goodrich, Dr. Charles A.	5 Haynes St., Hartford
Gregory, Mrs. A. W.	63 Gillett St., Hartford
Hill, Miss Jane P.	New Britain
Hillyer, Mrs. A. R.	91 Elm St., Hartford
Infant Welfare Association (Affil.)	200 Orange St., New Haven
Linde, Dr. Joseph I.	163 York St., New Haven
Mead, Dr. Kate C.	105 Broad St., Middletown
Rockefeller, Mrs. P. A.	Greenwich
Steele, Dr. H. Merriman	226 Church St., New Haven
Steiner, Dr. W. R.	4 Trinity St., Hartford
Wanning, Mr. F. D.	Derby
Visiting Nurse Association (Affil.)	37 Central Ave., Waterbury
Wilkinson, Miss Martha J.	34 Charter Oak Ave., Hartford

District of Columbia

Acker, Dr. George N.	913 Avenue of the Presidents, Washington
Adams, Dr. Samuel S.	1 Dupont Circle, Washington
Boyd, Dr. George W.	121 Second St., N. W., Washington
Brickenstein, Mr. J. H.	918 F St., Washington
Columbia and Childrens' Alumnae Association (Affil.)	1337 K st., N. W., Washington
Flannery, Mrs. John S.	2017 O St., N. W., Washington
Fremont-Smith, Dr. F.	1808 Massachusetts Ave., Washington
Gardner, Miss Helen W., R. N.	The Portner, Washington
Graduate Nurses' Association of the District of Columbia (Affil.)	1337 K St., N. W., Washington
*Green, Mr. Bernard R.	Library Bldg., Washington
Gwynn, Miss Mary	1740 N. St., N. W., Washington
Hammond, Mrs. John Hays	2315 Massachusetts Ave., Washington
Hay, Mrs. John	800 Avenue of the Presidents, Washington
Heald, Mrs. Edward C.	1617 Riggs Place, Washington
Heurich, Mrs. Christian	1307 New Hampshire Ave., Washington
Instructive Visiting Nurse Society (Affil.)	2506 K St., N. W., Washington
Kerr, Dr. J. W.	U. S. Public Health Service, Washington
Kober, Dr. George M.	1819 Q St., N. W., Washington
Langworthy, Mr. Charles Ford	Department of Agriculture, Washington
Lathrop, Miss Julia C.	Chief Federal Children's Bureau, Washington
Lewis, Mrs. Fulton	1660 Thirty-first St., Washington
Meigs, Dr. Grace L.	Federal Children's Bureau, Washington
Merrill, Dr. Theodore C.	Bureau of Chemistry, Washington
Nevins, Miss Georgia M.	Superintendent Garfield Memorial Hospital, Washington
Newton, Mrs. Elsie Eaton	Supervisor U. S. Indian Service, Washington
Overton, Mrs. W. S.	2 Dupont Circle, Washington
Perkins, Mrs. Henry Cleveland	1701 Connecticut Ave., Washington
Pfender, Dr. Charles A.	304 Rhode Island Ave., N. W., Washington
Saville, Miss Catherine	1420 Seventeenth St., N. W., Washington
Schereschewsky, Dr. J. W.	U. S. Public Health Service, Washington
Skinner, Dr. J. C.	Superintendent Columbia Hospital for Women, Washington
Stetson, Rev. C. R.	301 A St., S. E., Washington
Strong, Miss Isabel	2001 I St., N. W., Washington
Totten, Miss Edith	Washington
Van Schaick, Rev. John, Jr.	1417 Massachusetts Ave., N. W., Washington
West, Mrs. Max	Federal Children's Bureau, Washington
Wheeler, Miss Estelle L.	1322 Twenty-eighth St., Washington
Wilbur, Dr. Cressy L.	Bureau of the Census, Washington
Wilson, Mrs. Huntington	1608 K St., Washington
Woodward, Dr. Wm. C.	1766 Lanier Place, Washington

*Deceased

Mothers' Aid of the Chicago Lying-in

Hospital and Dispensary (Affil.)	Chicago
Poole, Mrs. R. H.	Elmhurst, Lake Forest
Rew, Mrs. Irwin	1128 Ridge Ave., Evanston
Rosenwald, Mr. Julius	76 Sears, Roebuck & Co., Chicago
Scott, Mrs. Frederick H.	Hubbard Woods
Scott, Mrs. Robert L.	404 Lake St., Evanston
Shaw, Mrs. Howard Van Doren	1130 Lake Shore Drive, Chicago
Taylor, Mr. Graham	955 Grand Ave., Chicago
Teter, Mr. Lucius	5637 Woodlawn Ave., Chicago
Towne, Mrs. John D.	1004 Greenwood Boulevard, Chicago
Tyson, Mrs. Russell	20 E. Goethe St., Chicago
Webster, Mrs. Edwin H.	Hubbard Woods
Webster, Dr. George W.	30 N. Michigan Boulevard, Chicago
Woman's Club (Affil.)	410 S. Michigan Ave., Chicago
Woman's Club of Decatur (Affil.)	Decatur
Wynekoop, Dr. A. L. Lindsay	3406 W. Monroe St., Chicago
Young, Dr. George B.	Commissioner of Health, Chicago

Indiana

Burckhardt, Dr. Louis	Hume-Mansur Bldg., Indianapolis
Children's Aid Association (Affil.)	62 Baldwin Block, Indianapolis
Children's Dispensary and Hospital Association (Affil.)	1031 W. Division St., South Bend
Mumford, Dr. E. B.	504 Newton-Claypool Bldg., Indianapolis
Powell, Dr. Nettie B.	Marion
Rappaport, Mr. Leo M.	822 Law Bldg., Indianapolis
Warmington, Miss Mary Grace	1700 Adams St., Gary

Iowa

Child Welfare Committee of the Red Cross (Affil.)	502½ Jefferson St., Burlington
Iowa State Association of Graduate Nurses (Affil.)	Sioux City
MacKay, Miss Catherine J.	Iowa State College of Agriculture, Ames
Meannce, Dr. Lenna L.	Securities Bldg., Des Moines
Perkins, Mrs. M. Russell	Burlington
Sherbon, Dr. Florence Brown	Colfax

Kansas

Christian Service League of America (Affil.)	113 N. Lawrence Ave., Wichita
Crumbine, Dr. S. J.	Secretary State Board of Health, Topeka
Day, Miss Edna D.	University of Kansas, Lawrence
Hosford, Mr. George Lewis	113 N. Lawrence Ave., Wichita

Kentucky

Babies' Milk Fund Association (Affil.)	215 E. Walnut St., Louisville
Baby's Milk Fund Association (Affil.)	Lexington
Barbour, Dr. Philip F.	Louisville
Belknap, Mrs. Morris A.	1322 Fourth Ave., Louisville
Butler, Miss Harriet L.	Hindman, Knott Co.
Fulton, Dr. Gavin S.	Louisville
Kentucky State Association of Graduate Nurses (Affil.)	121 W. Chestnut St., Louisville
Myer, Dr. Samuel P.	216 W. Chestnut St., Louisville
Shaver, Miss Elisabeth	215 E. Walnut St., Louisville
Smith, Mrs. Letchworth	Ann Acres, Mocking Bird Valley, R. F. D. No. 1, Louisville
Tuley, Dr. Henry Enos	111 W. Kentucky St., Louisville

Louisiana

Butterworth, Dr. W. W.	Tulane University, New Orleans
Child Welfare Association (Affil.)	419 Gravier St., New Orleans
Denegre, Mrs. George	Prytania and Eighth Sts., New Orleans
Hart, Mr. W. O.	134 Carondelet St., New Orleans
Herold, Mrs. S. L.	Shreveport
Pure Milk Society (Affil.)	1206 Maison Blanche Bldg., New Orleans

Maine

Erb, Mrs. F. O.	110 Emery St., Portland
Everett, Dr. Harold J.	727 Congress St., Portland
Gerrish, Dr. F. H.	Portland
Leighton, Dr. Adam P., Jr.	109 Emery St., Portland
Moore, Dr. Roland B.	768 Congress St., Portland
Upson, Mr. Wm. J.	Bethel
Webster, Dr. F. P.	Portland
Young, Dr. A. G.	Secretary State Board of Health, Augusta

Maryland

Abel, Mrs. John J.	Charles Street, Ext., Baltimore
Abercrombie, Dr. Ronald T.	Homewood Apartments, Baltimore
Athey, Mrs. C. N.	100 S. Patterson Park Ave., Baltimore
Baby Welfare Section of Civic Club of Cumberland (Affil.)	Cumberland
Baltimore Association of Jewish Women (Affil.)	Baltimore
Barker, Mrs. L. F.	1035 N. Calvert St., Baltimore
Beitler, Dr. Frederic L.	State Department of Health, Baltimore
Belt, Mrs. W. H. G.	613 Reservoir St., Baltimore
Bliss, Mrs. Wm. J. A.	1017 St. Paul St., Baltimore
Bloodgood, Mrs. Joseph C.	904 N. Charles St., Baltimore
Bonaparte, Mr. Charles J.	216 St. Paul St., Baltimore
Bowdoin, Miss Alice G.	865 Park Ave., Baltimore
Bowdoin, Mrs. W. G.	1106 N. Charles St., Baltimore
Buck, Mrs. R. B.	1228 St. Paul St., Baltimore
Carey, Mrs. Francis K.	509 Cathedral St., Baltimore
Carman, Dr. R. P.	1701 N. Caroline St., Baltimore
Cone, Dr. Claribel	The Marlborough, Baltimore
Cook, Mrs. George Hamilton	1001 St. Paul St., Baltimore
Corkran, Mrs. Benj. W.	200 Goodwood Gardens, Roland Park
Council Milk and Ice Fund (Affil.)	Baltimore
Davis, Mrs. John Staige	1200 Cathedral St., Baltimore
Dobbin, Mrs. Thomas M.	1308 Bolton St., Baltimore
Dorsey, Mrs. John R.	730 Roland Ave., Baltimore
Ellicott, Mrs. Charles	Melvale
Epstein, Mr. Jacob	2532 Eutaw Place, Baltimore
Eitchberger, Miss M. Frances	52 Bible Bldg., Baltimore
Fellis, Dr. Richard H.	3 E. Read St., Baltimore
France, Mrs. J. C.	219 W. Lanvale St., Baltimore
French, Miss Anna M.	219½ E. North Ave., Baltimore
Friedenwald, Dr. Julius	1013 N. Charles St., Baltimore
Fulton, Dr. John S.	2211 St. Paul St., Baltimore
Garrett, Mr. Robert	Garrett Bldg., Baltimore
Gibbs, Mr. John S., Jr.	1026 N. Calvert St., Baltimore
Gibbs, Mrs. Rufus M.	1209 St. Paul St., Baltimore
Gilpin, Mrs. Henry B.	Baltimore
Gorter, Dr. Nathan R.	1 W. Biddle St., Baltimore
Greenbaum, Dr. Harry S.	1014 Eutaw Place, Baltimore
Guggenheimer, Miss Aimee	36 Talbot Road, Windsor Hills
Hamburger, Mrs. Louis P.	1207 Eutaw Place, Baltimore
Health Department (Affil.)	City Hall Annex, Baltimore
Recht, Mrs. Albert	2408 Eutaw Place, Baltimore
Heinemann, Mrs. Milton	2220 Eutaw Place, Baltimore
Hendley, Mrs. Charles W.	Homewood Apartments, Baltimore
Hochschild, Mrs. Max	1922 Eutaw Place, Baltimore
Hooker, Dr. Donald R.	Station II, Govans
Hooper, Mrs. Jas. E.	St. Paul and 23rd Sts., Baltimore
Howland, Dr. John	Johns Hopkins Hospital, Baltimore
Hunner, Dr. Guy L.	2305 St. Paul St., Baltimore
Hutzler, Mrs. Albert D.	Carroll and Delaware Roads, Baltimore
Jacobs, Dr. Henry Barton	11 Mt. Vernon Place, W., Baltimore
Jencks, Mrs. Francis M.	1 W. Mt. Vernon Place, Baltimore
Jones, Dr. C. Hampson	2529 St. Paul St., Baltimore
Katz, Mrs. A. Ray	2532 Eutaw Place, Baltimore
Keyser, Mr. R. Brent	Keyser Bldg., Baltimore
Knipp, Master George W.	Athol Ave., Station D., Baltimore
Knipp, Miss Gertrude B.	1821 Park Ave., Baltimore

Knapp, Dr. Harry E.	Freimont and Lanvale Sts., Baltimore
Knox, Dr. and Mrs. J. H. Mason, Jr.	Guilford, Baltimore
Knox, Master J. H. Mason, III.	Guilford, Baltimore
Knox, Miss Katherine Bowdoin	Guilford, Baltimore
Lauer, Mrs. Leon	Esplanade Apartments, Baltimore
Lent, Miss Mary E.	Superintendent Instructive Visiting Nurse Association, 1123 Madison Ave., Baltimore
Levering, Mr. Joshua	1316 Eutaw Place, Baltimore
Lichenstein, Mrs. Francina Freese	21 N. Allegany St., Cumberland
Lockwood, Dr. Wm. F.	8 E. Eager St., Baltimore
MacMahon, Miss Amy E., R. N.	Johns Hopkins Hospital, Baltimore
McLanahan, Mr. Austin	Alex. Brown & Sons, Baltimore
Marburg, Mrs. Theodore	14 W. Mt. Vernon Place, Baltimore
Maryland Association for Study and Prevention of Infant Mortality (Affil.)	52 Bible Bldg., Baltimore
Maryland Society for the Prevention of Blindness (Affil.)	Baltimore
Maryland State Association of Grad- uate Nurses (Affil.)	1211 Cathedral St., Baltimore
Mitchell, Dr. Charles W.	9 E. Chase St., Baltimore
Murray, Mrs. Edward	Elkridge
O'Donovan, Dr. Charles	5 E. Read St., Baltimore
Oliver, Mr. Wm. B.	Washington Apartments, Baltimore
Oppenheim, Mrs. Eli	2042 Eutaw Place, Baltimore
Paine, Mrs. Clinton Paxton	Washington Apartments, Baltimore
Pleasants, Dr. J. Hall	806 University Parkway, Baltimore
Poultney, Mrs. Wm. D.	Chattolance
Price, Miss Amabel Lee	Algburth Park, Towson
Ramsay, Mr. John S.	1218 St. Paul St., Baltimore
Ruhrath, Dr. John	Algonquin Apartments, Baltimore
Seegar, Dr. and Mrs. J. K. B. E.	1529 Park Ave., Baltimore
Semmes, Mrs. John E.	10 E. Eager St., Baltimore
Sherwood, Dr. Mary	Arundel Apartments, Baltimore
Shoemaker, Mrs. Edward	1031 N. Calvert St., Baltimore
Shoemaker, Mr. S. M.	Eccleston
Sonneborn, Mrs. Sigmund B.	2420 Eutaw Place, Baltimore
Taylor, Mrs. A. H.	4 E. Eager St., Baltimore
Thomas, Dr. Henrietta M.	1718 John St., Baltimore
Walker, Mrs. Amelia H.	25 W. Chase St., Baltimore
Welch, Dr. Wm. H.	807 St. Paul St., Baltimore
Welsh, Dr. Lillian	Arundel Apartments, Baltimore
Westheimer, Mrs. Henry	2322 Eutaw Place, Baltimore
White, Mr. Richard J.	10 South St., Baltimore
Whitridge, Mrs. Susan M.	818 University Parkway, Baltimore
Whitridge, Mrs. John	Brooklandville P. O.
Wight, Mrs. John H.	Harrison P. O.
Williams, Dr. J. Whitridge	1128 Cathedral St., Baltimore
Young, Dr. Hugh H.	330 N. Charles St., Baltimore

Massachusetts

Adrianse, Dr. Vanderpool	Williamstown
Almy, Dr. Thomas	140 Rock St., Fall River
Avon Home (Affil.)	589 Massachusetts Ave., Cambridge
Baby Feeding Association (Affil.)	613 Main St., Springfield
Balley, Dr. Wm. F.	Homeopathic Hospital, Boston
Beard, Miss Mary	561 Massachusetts Ave., Boston
Bedinger, Mr. George R.	26 Bennet St., Boston
Binney, Mr. Henry P. Jr.	303 Marlborough St., Boston
Blood, Miss Alice F.	10 Plumboldt St., Cambridge
Borden, Mr. Richard P.	57 N. Main St., Fall River
Boston Children's Friend Society (Affil.)	48 Rutland St., Boston
Boston Floating Hospital (Affil.)	54 Devonshire St., Boston
Bottomley, Dr. John T.	165 Beacon St., Boston
Bowditch, Dr. Henry I.	416 Marlboro St., Boston
Brckett, Mr. Jeffrey R.	41 Marlboro St., Boston
Brayton, Miss Alice	294 Prospect St., Fall River
Broughton, Dr. Arthur N.	10 Roanoke Ave., Jamaica Plain
Bryant, Mrs. John	338 Marlboro St., Boston

Cabot, Dr. Richard C.	190 Marlboro St., Boston
Campbell, Mr. Frances A.	Pemberton Square, Boston
Carr, Mr. Peter H.	Taunton
Carstens, Mr. C. C.	43 Mt. Vernon St., Boston
Clark, Mrs. J. D.	Ashcroft, Sherborn
Clextan, Mr. Thomas J.	285 Congress St., Boston
Codman, Mrs. E. A.	227 Beacon St., Boston
Cody, Dr. Edmund F.	105 S. Sixth St., New Bedford
Committee on Infant Social Service of the Women's Municipal League of Boston (Affil.)	40 Beacon St., Boston
Cook, Miss M. J., R. N.	Superintendent Melrose Hospital Association, Melrose
Crawford, Dr. F. X.	Quarantine Station, Deer Island, Boston
Cronan, Mr. John F.	11 Pemberton Square, Boston
Curry, Dr. Edmund F.	209 Hanover St., Fall River
Cutler, Mr. Elliott C.	Brookline
Dana, Miss Charlotte W., R. N.	Superintendent Lying-in Hospital, Boston
Davis, Mr. Michael M., Jr.	25 Bennet St., Boston
Davis, Dr. Nelson C.	494 Rutherford Ave., Boston
Davis, Dr. Wm. H.	23 Beaumont St., Dorchester
Dennison, Mr. Joseph A.	18 Tremont St., Boston
Denny, Dr. Francis P.	111 High St., Brookline
DeNormandie, Dr. Robert L.	357 Marlboro St., Boston
Dowsley, Dr. John F.	12 Huntington Ave., Boston
Dunn, Dr. Charles Hunter	220 Marlboro St., Boston
Duvally, Mr. Nicholas P.	Tufts Medical School, Boston
Eastman, Dr. A. C.	8 Chestnut St., Springfield
Egan, Miss Sarah A.	54 Devonshire St., Boston
Emerson, Dr. Wm. R. P.	657 Boylston St., Boston
Emmons, Dr. Arthur B., 2nd.	80 Bay State Road, Boston
Eustis, Mrs. F. A.	Canton Ave., Readville
Eustis, Mr. Richard S.	320 Beacon St., Boston
Farrington, Miss Ellenor	50 Bellevue St., West Roxbury
Fenton, Mr. Henry M.	27 Kilby St., Boston
Flanagan, Mrs. Jos. H.	Walnut Park, Newton
Forbes, Miss Ellen	Milton
Forbes, Miss Olive Northrop	3 Chandler St., Lexington
Foster, Mr. Warren Dunham	The Youth's Companion, Boston
Frank, Mrs. Bertha B.	65 Maples Road, Brookline
Friedman, Dr. Leo Victor	425 Marlborough St., Boston
Gallivan, Dr. Wm. J.	Health Department, Boston
Greene, Mr. Henry Copley	3 Park St., Boston
Greenwood, Mr. Arthur W.	Marblehead
Heffernan, Miss Ellen A.	City Hall Annex, Boston
Hill, Mrs. Edward Burlingame	8 Highland St., Cambridge
Holmes, Dr. May S.	Belmont Hospital, Worcester
Howe, Miss Fanny R., R. N.	28 Chestnut St., Boston
Howell, Dr. Wm. W.	279 Clarendon St., Boston
Hughes, Dr. Laura A. G.	98 Huntington Ave., Boston
Huntington, Dr. James Lincoln	8 Gloucester St., Boston
Infant Hygiene Association (Affil.)	Holyoke
Instructive District Nursing Association (Affil.)	561 Massachusetts Ave., Boston
Jackson, Dr. Albert L.	362 Commonwealth Ave., Boston
Keith, Mr. Paul A.	Keith's Theatre, Boston
Lally, Miss Theresa M.	43 Tremont St., Boston
Lancaster, Dr. Walter B.	522 Commonwealth Ave., Boston
Lane, Mrs. J. C.	206 Walpole St., Norwood
Learned, Dr. Wm. T.	Fall River
Leary, Dr. Timothy	44 Burroughs St., Jamaica Plain
Lee, Mr. Joseph	101 Tremont St., Boston
Little, Dr. Abby N.	22 Essex St., Newburyport
Logan, Mr. Theodore M.	560 E. Broadway, So. Boston
McCaffrey, Dr. Charles H.	Summer St., Somerville
MacCarthy, Dr. Francis H.	19 Joy St., Boston
McIntyre, Dr. George H.	5 Dana St., Cambridge
MacNutt, Dr. J. Scott	254 Walnut St., Brookline
Marvell, Dr. Mary W.	242 Highland Ave., Fall River
Mason, Mrs. Charles B.	Readville
Massachusetts Babies Hospital (Affil.)	43 Hawkins St., Boston

Massachusetts Milk Consumers' Association (Affil.)	49 Beacon St., Boston
Maverick Dispensary (Affil.)	18 Chelsea St., East Boston
Milk and Baby Hygiene Association (Affil.)	26 Bennet St., Boston
Morgan, Dr. Charles E.	Central St., Somerville
Morse, Dr. John Lovett	70 Bay State Road, Boston
Newell, Dr. Franklin S.	443 Beacon St., Boston
Page, Dr. Calvin Gates	128 Marlboro St., Boston
Paine, Dr. A. K.	366 Commonwealth Ave., Boston
Palmer, Dr. Ezra	Trinity Court, Boston
Parsons, Miss Sara E.	Massachusetts General Hospital, Boston
*Putnam, Dr. Charles P.	63 Marlboro St., Boston
Putnam, Mrs. Wm. Lowell	49 Beacon St., Boston
Reardon, Mr. John A., Jr.	52 Church St., Boston
Richardson, Miss Margaret H., R. N.	28 Appleton St., Boston
Rogers, Mr. Frank S.	192 Upland Road, Cambridge
Rosenau, Dr. M. J.	Harvard Medical School, Boston
*Rotch, Dr. Thomas Morgan	197 Commonwealth Ave., Boston
Sanford, Miss Kate I.	Taunton
Shackford, Miss Martha Hale	Wellesley College, Wellesley
Shaw, Mrs. R. G., 2nd	Newton Centre
Sherwood, Miss Margaret P.	Wellesley College, Wellesley
Shuman, Mr. A.	Shuman Corner, Boston
Smith, Dr. Richard M.	329 Beacon St., Boston
Society for Helping Destitute Mothers and Infants (Affil.)	279 Tremont St., Boston
Strong, Miss Mary L.	19 Pembroke St., Boston
Sweeney, Mr. George W.	221 Columbus Ave., Boston
Talbot, Dr. Fritz B.	311 Beacon St., Boston
Tinkham, Mr. George H.	11 Pemberton Square, Boston
Titus, Dr. Raymond S.	31 Massachusetts Ave., Boston
Unity Lend-a-Hand Society (Affil.)	Lexington
Walker, Mr. George H.	1106 Boylston St., Boston
Warner, Mr. Joseph B.	84 State St., Boston
Whipple, Dr. F. H.	1079 Boylston St., Boston
Wright, Mr. Joseph B.	291 Atlantic Ave., Boston
Young-Slaughter, Dr. Emma E.	545 School St., Lowell

Michigan

Alumni Association of the Battle Creek Sanitarium and Hospital Training School for Nurses (Affil.)	Battle Creek
Babies' Milk Fund of Detroit (Affil.)	924 Brush St., Detroit
Beifeld, Dr. Albert Henry	University Hospital, Ann Arbor
Butzel, Mr. Fred	1012 Union Trust Bldg., Detroit
Clinic for Infant Feeding of the D. A. Blodgett Home (Affil.)	Grand Rapids
Cooley, Dr. Thomas B.	Kresge Medical Bldg., Detroit
Cowie, Dr. D. Murray	University of Michigan, Ann Arbor
Curtis, Dr. Henry S.	Olivet
Douglas, Dr. Charles	959 Jefferson Ave., Detroit
Duffield, Dr. Francis	248 Seminole Ave., Detroit
Farrand Training School Alumnae Association (Affil.)	Detroit
Ford, Miss Stella D.	1130 Woodward Ave., Detroit
Halsey, Miss Sarah L.	441 Kirby Ave., West, Detroit
Holmes, Dr. Arthur D.	270 Woodward Ave., Detroit
Hoobler, Dr. B. Raymond	707 Shirley Bldg., Detroit
Inglis, Mr. James	626 East Gd. Blvd., Detroit
Jennings, Dr. Charles G.	435 Jefferson Ave., Detroit
Johnston, Dr. Collins H.	526-8 Metz Bldg., Grand Rapids
Joy, Mrs. H. B.	Fairacres, Grosse Pointe Farms
Kellogg, Dr. J. H.	Superintendent Battle Creek Sanitarium
La Forge, Miss Zoe	924 Brush St., Detroit
McGregor, Mrs. Tracy	239 Brush St., Detroit
Nichols, Mrs. J. Brooks	Detroit
Osborne, Miss Mary E.	703 East Second St., Flint
Parker, Mrs. Walter R.	285 Seminole Ave., Detroit

*Deceased

Peterson, Dr. Reuben	University Hospital, Ann Arbor
Phelps, Miss Jessie	16 N. Summit St., Ypsilanti
Pope, Mrs. G. D.	212 Iroquois Ave., Detroit
Pope, Mrs. Willard	37 Putnam Ave., Detroit
Rosenberger, Mrs. Oscar	134 Lathrop Ave., Detroit
Rowland, Dr. R. S.	512 Washington Arcade, Detroit
Smith, Dr. Richard R.	Metz Bldg., Grand Rapids
Stevens, Mr. Henry Glover	615 Stevens Bldg., Detroit
Social Welfare Association (Aml.)	55 Barclay Ave., Grand Rapids
Visiting Nurse Association (Aml.)	924 Brush St., Detroit
Race Betterment Conference	Battle Creek

Minnesota

Adair, Dr. Fred L.	Donaldson Bldg., Minneapolis
Barber, Mrs. Harry	2015 Pleasant Ave., S., Minneapolis
Bracken, Dr. H. M.	Capitol Bldg., St. Paul
Burnet, Mrs. R. W.	2601 Euclid Place, Minneapolis
Chesley, Dr. A. J.	State Board of Health, Minneapolis
Christison, Dr. J. T.	Lowry Bldg., St. Paul
Crosby, Miss Caroline M.	1616 Washington Ave., N., Minneapolis
Doerr, Mrs. George V.	2611 Euclid Ave., Minneapolis
Douglas, Mrs. George P.	2424 Park Ave., Minneapolis
Hirschfelder, Dr. Arthur D.	University of Minnesota, Minneapolis
Huenekens, Dr. E. J.	1037 Andrus Bldg., Minneapolis
Infant Welfare Department Duluth	
Consistory Scottish Rite Masons (Aml.)	Masonic Temple, Duluth
Infant Welfare Society (Aml.)	323 Plymouth Bldg., Minneapolis
Ireys, Mrs. Charles G.	401 Groveland Ave., Minneapolis
Knoblauch, Mrs. Florence W.	1717 James Ave., S., Minneapolis
McCarthy, Mrs. J., Jr.	2307 Pleasant Ave., Minneapolis
Minnesota Public Health Association (Aml.)	Old Capitol, St. Paul
Ramsey, Dr. Walter R.	Lowry Annex, St. Paul
Ross, Mrs. Charles F.	4741 Fremont Ave., S., Minneapolis
Rowe, Dr. Olin W.	Fidelity Bldg., Duluth
St. Paul Baby Welfare Association (Aml.)	Wilder Bldg., St. Paul
Schlutz, Dr. Frederic W.	820 Donaldson Bldg., Minneapolis
Sedgwick, Dr. J. P.	New Syndicate Bldg., Minneapolis
Shovlin, Mrs. Thomas L.	2205 Park Ave., Minneapolis
Sommers, Mrs. H. S.	956 Portland Ave., St. Paul
Walker, Mrs. Archie Dean	419 Groveland Ave., Minneapolis
Williams, Mrs. Charles R.	2215 Pillsbury Ave., Minneapolis

Mississippi

Foster, Dr. R. Heath	Citizens' National Bank Bldg., Meridian
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Missouri

Bleyer, Dr. A. S.	516 Delmar Bldg., St. Louis
Brady, Dr. Jules M.	1567 Union Ave., St. Louis
Darling, Miss Lottie A.	611 N. Jefferson St., St. Louis
DeLamater, Dr. Hasbrouck	Assistant Health Commissioner, Kansas City
Greene, Mrs. Charles W.	814 Virginia Ave., Columbia
Halbert, Mr. L. A.	Water Works Bldg., Kansas City
McClure, Miss Margaret	Vanol Bldg., St. Louis
Missouri State Nurses' Association (Aml.)	6231 Etzel Ave., St. Louis
Moore, Miss Elizabeth	3125 Lafayette Ave., St. Louis
Mosher, Dr. George Clark	805 Bryant Bldg., Kansas City
Nagel, Mrs. Charles	5320 Waterman Ave., St. Louis
Neff, Dr. Frank C.	900 Rialto Bldg., Kansas City
St. Joseph Baby Welfare Association (Aml.)	2307 S. Sixth St., St. Joseph
St. Louis Children's Hospital (Aml.)	St. Louis

Saunders, Dr. Edward W. 1606 S. Grand Ave., St. Louis
 Stanley, Miss Louise. 1215 Hudson Ave., Columbia
 Tuttle, Dr. George M. 4917 Maryland Ave., St. Louis
 Veeder, Dr. Borden S. 1806 Locust St., St. Louis
 Volker, Mr. Wm. 308 W. Eighth St., Kansas City
 Wilhelm, Dr. F. E. 719 Gloyd Bldg., Kansas City
 Zahorsky, Dr. John 1460 S. Grand Ave., St. Louis

Montana

Rinzel, Miss Alma L. 301 Edith St., Missoula
 Dean, Dr. Maria M. Helena
 Hughes, Miss Margaret M., R. N. P. O. Box 928, Helena

Nebraska

Lynch, Dr. Della A. 1002 W. O. W. Bldg., Omaha
 McClanahan, Dr. H. M. 468 Brandels Bldg., Omaha
 Nebraska State Association of Graduate Nurses (Affil.) Omaha

Nevada

McKinley, Dr. F. J. Superintendent Walker River Agency, U. S. Indian Service, Schurz

New Hampshire

Bennett, Dr. H. W. N. Manchester
 Berlin Mills Company's District Nurse (Affil.) Berlin
 Clow, Dr. Fred. Ellsworth Wolfeboro
 Infant Aid Association (Affil.) Manchester
 Streeter, Mrs. Frank S. 234 N. Main St., Concord
 Woods, Prof. Erville B. Dartmouth College, Hanover

New Jersey

Alexander, Mrs. A. Castle Point, Hoboken
 Babies Hospital (Affil.) 137 High St., Newark
 Babies Hospital Milk Dispensary (Affil.) 437 High St., Newark
 Bain, Miss Beulah A. 75 Elm St., Montclair
 Bumsted, Dr. C. V. R. 235 Grafton Ave., Newark
 Coit, Dr. Henry L. 277 Mt. Prospect Ave., Newark
 Day, Dr. Grafton E. Haddon and Lincoln Aves., Collingswood
 Dennis, Dr. L. 49 Ridge St., Orange
 Diet Kitchen of the Oranges (Affil.) 124 Essex Ave., Orange
 Francisco, Mr. Stephen. President Fairfield Dairy Co., Montclair
 Free Public Library (Affil.) East Orange
 Harvey, Dr. Thomas W., Jr. 403 Main St., Orange
 Hoffman, Mr. Fred. L. Prudential Insurance Co. of America, Newark
 Hogan, Mr. Edward P. 7 Second St., Weehawken
 Howell, Mrs. J. W. 211 Ballantine Parkway, Newark
 Levy, Dr. Julius. 101 Littleton Ave., Newark
 Marvel, Dr. Philip. 1616 Pacific Ave., Atlantic City
 Moore, Mrs. Paul. 78 Madison Ave., Morristown
 New Jersey Congress of Mothers (Affil.) Moorestown
 Nicholson, Mrs. W. H., Jr. 327 S. Second St., Millville
 Pinneo, Dr. Frank W. 199 Garfield St., Newark
 Richards, Dr. L. J. Health Officer, Elizabeth
 Roebing, Mrs. Karl G. 211 W. State St., Trenton
 St. Vincent's Nursery and Babies' Hospital (Affil.) Montclair
 Stevens, Mrs. Richard. Hoboken
 Stewart, Dr. W. Blair. Atlantic City
 Synnott, Dr. Martin J. 34 S. Fullerton Ave., Montclair
 Van Winkle, Mrs. Abram. 35 Lincoln Park, Newark
 Visiting Nurse Association (Affil.) 122 Magnolia Ave., Elizabeth

New York

American Nurses' Association (Affil.)	419 West 144th St., New York City
Armstrong, Dr. Donald B.	105 East 22nd St., New York City
Babbitt, Miss Ellen C.	18 East 62nd St., New York City
Baby Welfare Committee (Affil.)	Utica
Babies' Hospital (Affil.)	135 East 55th St., New York City
Babies' Milk Dispensary (Affil.)	181 Franklin St., Buffalo
Babies' Dairy Association (Affil.)	8 West 49th St., New York City
Baker, Dr. S. Josephine	Department of Health, New York City
Benson, Dr. Reuel A.	8 West 49th St., New York City
Biggs, Dr. Herman M.	State Commissioner of Health, Albany
Bock, Dr. Franklin Wm.	133 Clinton Ave., S., Rochester
Brewster, Mr. George S.	51 Wall St., New York City
Brooklyn Bureau of Charities District Nursing Committee (Affil.)	80 Schermerhorn St., Brooklyn
Brooklyn Children's Aid Society (Affil.)	72 Schermerhorn St., Brooklyn
Brooklyn Pediatric Society (Affil.)	Brooklyn
Brooklyn Society for the Prevention of Cruelty to Children (Affil.)	Brooklyn
Brown, Dr. W. M.	272 Alexander St., Rochester
Bureau of Health (Affil.)	Rochester
Bureau of Municipal Research (Affil.)	261 Broadway, New York City
Button, Dr. Lucius L.	265 Alexander St., Rochester
Calvert, Mrs. John B.	201 West 57th St., New York City
Camp Fire Girls (Affil.)	461 Fourth Ave., New York City
Children's Welfare Division of Bellevue Hospital Social Service Department (Affil.)	New York City
Clark, Miss Mary Vida	105 East 22nd St., New York City
Clarke, Dr. T. Wood	240 Genesee St., Utica
Courtney, Rt. Rev. Fred'k.	Madison Ave. and 75th St., New York
Crich, Miss Mary V., R. N.	415 Smith St., Peekskill
Darlington, Dr. Thomas	30 Church St., New York City
Defenthaler, Mrs. Charles R.	303 West 91st St., New York City
Domser, Dr. Benjamin M.	Corner Pond and Lodi Sts., Syracuse
Dunham, Mrs. Edward K.	35 East 68th St., New York City
Emerson, Dr. Haven	120 East 62nd St., New York City
Faust, Dr. Louis	19 Jay St., Schenectady
Flagler, Mrs. Harry H.	32 Park Ave., New York City
Folks, Mr. Homer	105 East 22nd St., New York City
Fox, Mr. Henry J.	150 West 86th St., New York City
Fox, Mr. Mortimer J., Jr.	150 West 86th St., New York City
Fox, Mr. Hugh F.	New York City
Frankel, Dr. Lee K.	1 Madison Ave., New York City
Freeman, Dr. Rowland G.	211 West 57th St., New York City
Fronczak, Dr. Francis E.	Health Commissioner, Buffalo
Gillett, Mrs. Wm. K.	Polham Manor
Goodman, Dr. A. L.	180 West 87th St., New York City
Goodrich, Miss Annie W.	Teachers' College, Columbia University
Harrower, Dr. Henry R.	75 Washington Place, W., New York City
Hart, Dr. Hastings H.	130 East 22nd St., New York City
Haynes, Dr. Royal Storrs	375 West End Ave., New York City
Hebrew Infant Asylum (Affil.)	Kingsbridge Road, New York City
Helman, Dr. Henry	30 West 88th St., New York City
Herrman, Dr. Charles	250 West 88th St., New York City
Hess, Dr. Alfred F.	18 West 86th St., New York City
Higgins, Mr. Charles M.	101 Ninth Ave., Brooklyn
Hill, Mr. Nicholas S., Jr.	100 William St., New York City
Hilton, Mrs. George P.	240 State St., Albany
Holden, Mrs. Edwin B.	323 Riverside Drive, New York City
Holt, Dr. L. Emmett	14 West 55th St., New York City
Homer, Madame Louise	48 East 78th St., New York City
Hoopes, Mr. Maurice	Glens Falls
Infant Welfare Committee of Associated Churches and Charities (Affil.)	508 E. Genesee St., Syracuse
Ives, Mrs. Henrietta	Bellevue and Allied Hospitals, Social Service Department, New York City
Jacobi, Dr. Abraham	19 East 47th St., New York City
Johnson, Mrs. Burges	Port Washington, Nassau Co.
Kellogg, Mrs. F. Leonard	118 East 70th St., New York City
Kerley, Dr. Charles G.	132 West 81st St., New York City
Kerr, Miss Anna W.	Department of Health, New York City

Kohler, Mrs. Emil	258 West 91st St., New York City
Kosmak, Dr. George	23 East 93rd St., New York City
La Petra, Dr. Linnaeus E.	113 East 61st St., New York City
Leo-Wolf, Dr. Carl G.	481 Franklin St., Buffalo
Little, Dr. George F.	177 Montague St., Brooklyn
Macy, Dr. Mary Sutton	101 West 80th St., New York City
Main, Mr. William	100 Broadway, New York City
Markoe, Dr. James W.	12 West 50th St., New York City
Mathesius, Mrs. Frederick, Jr.	255 West 91st St., New York City
Metropolitan Life Insurance Co., Industrial Department (Affil.)	New York City
Mills, Mr. Wm. Wirt	249 Manor Road, West New Brighton
Mitchell, Mrs. Wesley Clair	57 West Tenth St., New York City
Moffett, Dr. Rudolph Duryea	830 Park Ave., New York City
Mosher, Mr. H. T.	216 Alexander St., Rochester
National League of Nursing Education (Affil.)	420 West 118th St., New York City
New York Committee for the Prevention of Blindness (Affil.)	130 East 22nd St., New York City
New York Diet Kitchen Association (Affil.)	1 West 34th St., New York City
New York Maternity Polyclinic (Affil.)	New York City
New York Milk Committee (Affil.)	105 East 22nd St., New York City
New York State Nurses' Association (Affil.)	New York City
Niagara Falls Child Welfare Association (Affil.)	Niagara Falls
Nutting, Miss M. Adelaide	Teachers' College, Columbia University
Olcott, Mr. Dudley	Albany
Olcott, Mrs. E. E.	322 West 75th St., New York City
Page, Dr. Agnes E.	350 State St., Albany
Palmer, Dr. Joseph C.	505 E. Fayette St., Syracuse
Perkins, Miss Emily S.	Riverdale-on-Hudson
Phelps, Mr. Edward Bunnell	500 West 122nd St., New York City
Piscek, Dr. Godfrey R.	36 East 62nd St., New York City
Potter, Dr. Philip S.	428 Physicians Bldg., Syracuse
Pratt, Mrs. Charles M.	241 Clinton Ave., Brooklyn
Rambo, Dr. Wm. S.	43 N. Plymouth Ave., Rochester
Rimer, Dr. Edward Sherrard	91 Bard Ave., West New Brighton
Robinson, Mrs. Theodore Douglas	Mahaque Farm, Mohawk, Herkimer Co.
Roosevelt, Mrs. Franklin H.	49 East 65th St., New York City
Rosenbaum, Mr. S. G.	207 West 24th St., New York City
Russell, Miss Martha M.	447 West 59th St., New York City
Russell, Dr. N. G.	460 Franklin St., Buffalo
Sage, Mrs. Isabel W.	Menands Road, Albany
Saint Margaret's House and Hospital (Affil.)	Albany
Sands, Dr. Georgiana	Port Chester
Schiff, Mr. Jacob H.	Kuhn, Loeb & Co., New York City
Schneider, Mr. Franz, Jr.	31 Union Square, New York City
Schwarz, Dr. Herman	50 East 91st St., New York City
Schwarzenbach, Mr. Robert J. F.	470 Fourth Ave., New York City
Seward, Mr. W. R.	218 Alexander St., Rochester
Shaw, Dr. H. L. K.	361 State St., Albany
Simon, Mrs. R. E.	320 West 87th St., New York City
Slade, Mr. Francis Louis	115 Broadway, New York City
Southworth, Dr. Thomas S.	807 Madison Ave., New York City
Straus, Mr. Nathan	27 West 72nd St., New York City
Strauss, Mr. Frederick	J. V. W. Seligman & Co., Bankers, New York City
Sub-Committee on Assisting and Providing Situations for Mothers and Infants of the New York State Charities Aid Association (Affil.)	105 East 22nd St., New York City
Tailler, Mrs. T. Suffern	21 West 51st St., New York City
Tiemann, Miss Edith W.	67 Midwood St., Brooklyn
Tough, Miss Mary	705 St. Marks Ave., Brooklyn
vander Bogert, Dr. Frank	111 Union St., Schenectady
Van Ingen, Dr. Philip	125 East 71st St., New York City
Wakeman, Mr. Arthur B.	72 Schermerhorn St., Brooklyn
Wanamaker, Mr. John	New York City
Weston, Miss Alice B.	105 East 22nd St., New York City
White, Mr. Thos. R., Jr.	10 Broadway, New York City
Wilcox, Dr. Herbert B.	159 East 70th St., New York City

Wile, Dr. Ira S.	230 West 97th St., New York City
Willcox, Prof. Walter F.	Cornell University, Ithaca
Winslow, Prof. C.-E. A.	25 West 45th St., New York City
Winters, Dr. Joseph B.	25 West 37th St., New York City
Wiseman, Dr. Joseph R.	705 E. Genesee St., Syracuse
Wood, Dr. Thomas D.	Columbia University, New York City
Wright, Mr. J. L.	55 Plymouth Ave., Rochester
Wykoop, Dr. E. J.	101 James St., Syracuse

North Carolina

Paglin, Dr. Paul.	Asheville
State Board of Health (Affil.)	Raleigh
Weil, Mrs. Mina.	Goldshoro, Wayne Co.

Ohio

Abbott, Mr. Gardner T.	1215 Williamson Bldg., Cleveland
Auer, Mrs. G. W.	1309 West 112th St., Cleveland
Babies' Dispensary and Hospital (Affil.)	2500 E. 35th St., Cleveland
Baldwin, Mr. and Mrs. Arthur D.	Lake Shore Boulevard, Cleveland
Bill, Dr. Arthur	2082 East 96th St., Cleveland
Blair, Dr. B. H.	Lebanon
Board of Health (Affil.)	Cleveland
Brown, Mr. Alexander C.	1974 East 71st St., Cleveland
Calfec, Mr. R. M.	1808 Williamson Bldg., Cleveland
Chisholm, Mrs. Wm.	2827 Euclid Ave., Cleveland
Cleveland Day Nursery and Free Kindergarten Association (Affil.)	2050 East 96th St., Cleveland
Crile, Dr. George	6203 Euclid Ave., Cleveland
Cushing, Mrs. Wm.	2908 Euclid Ave., Cleveland
Cushing, Mrs. Edward P.	4712 Euclid Ave., Cleveland
Devereux, Mrs. M. F.	2525 Euclid Ave., Cleveland
Engel, Mrs. Austa W.	1720 East 116th Place, Cleveland
Felss, Mrs. Paul L.	11452 Euclid Ave., Cleveland
Ford, Dr. C. E.	Secretary Board of Health, Cleveland
Furrer, Dr. Arnold P.	1110 Euclid Ave., Cleveland
Galt, Mrs. Wm.	Glendale, Cincinnati
Garfield, Mr. and Mrs. Abram	Lake Shore Boulevard, Cleveland
Garfield, Mrs. James R.	3328 Euclid Ave., Cleveland
Gerstenberger, Dr. H. J.	503 Osborn Bldg., Cleveland
Gitchell, Miss Katherine	Akron
Grandin, Mrs. G. W.	Magnolia Drive, Cleveland
Greene, Mr. and Mrs. Edward B.	10831 Magnolia Drive, Cleveland
Gregory, Prof. Emily Ray	University of Akron, Akron
Hamann, Dr. C. A.	418 Osborn Bldg., Cleveland
Hanna, Mrs. Howard M., Jr.	Station H., Cleveland
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